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ABSTRACT

The Continuous School Improvement Questionnaire (CSIQ) developed by the AEL helps a school staff gauge its performance on six dimensions related to continuous school improvement. Each member of the staff responds to the CSIQ individually. Although results might be used at the district or regional level, the most widely intended unit for applying the results is at the school level. This manual contains information about procedures for proper administration, scoring, and reporting of results, and information about the interpretation and use of results. The manual also provides information about the research base for the CSIQ. The technical report portion of this manual provides information about the development of the instrument through pilot and field tests. Normative data are given for different types of schools and for other variables found in the school setting. Charts for converting scale raw scores to percentiles also are provided, allowing the comparison of one school's CSIQ scores to those of other schools. The CSIQ instrument is included with this manual. (Contains 27 tables.) (SLD)

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AEL Continuous School Improvement Questionnaire

User Manual and Technical Report

TM034634

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Continuous School Improvement Questionnaire

AEL

Charting Your Course to High Achievement

School Name: _____

District Name: _____

State: _____ Date: _____

Directions:
This questionnaire concerns your perceptions of your school and community. Therefore, items should not be discussed prior to completion. There are no right or wrong answers. Please read each statement carefully and then rate the extent to which you believe it is true for your school. Using a scale of 1 to 6, with a "1" indicating that the behavior is "not present" and a "6" indicating that the behavior is "present to a high degree," completely fill in the appropriate bubble for each item.

Like this: ● Not this: ⊘ ⊗

Not present		Present to some extent			Present to a high degree
①	②	③	④	⑤	⑥

1. School leadership is proactive in communicating assessment results to parents.	① ② ③ ④ ⑤ ⑥
2. The school works with community groups to improve learning.	① ② ③ ④ ⑤ ⑥
3. Assessment data are used to improve student performance.	① ② ③ ④ ⑤ ⑥
4. School leaders facilitate others in seeking solutions to problems, rather than prescribing solutions.	① ② ③ ④ ⑤ ⑥
5. Groups have been established at this school to participate in shared decision making.	① ② ③ ④ ⑤ ⑥
6. Mistakes are viewed as opportunities for learning rather than failures.	① ② ③ ④ ⑤ ⑥
7. Periodically, new goals are adopted to replace old goals.	① ② ③ ④ ⑤ ⑥
8. The goals of this school are referred to frequently in conversations around this school.	① ② ③ ④ ⑤ ⑥
9. Assessment of student learning is directed to improving (rather than just monitoring) student performance.	① ② ③ ④ ⑤ ⑥
10. School goals focus attention on priorities.	① ② ③ ④ ⑤ ⑥
11. The assessment program is based on standards or clear criteria for student performance.	① ② ③ ④ ⑤ ⑥

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Not present		Present to some extent			Present to a high degree
1	2	3	4	5	6

12. Teachers collaboratively interpret assessment results.	1 2 3 4 5 6
13. Instructional methods promote student motivation.	1 2 3 4 5 6
14. School goals focus on results for students.	1 2 3 4 5 6
15. All students are considered capable of learning.	1 2 3 4 5 6
16. Teachers interpret student assessment results for parents.	1 2 3 4 5 6
17. Our school community frequently talks about ways to improve student assessment.	1 2 3 4 5 6
18. Teachers use a variety of instructional practices.	1 2 3 4 5 6
19. School goals are stated so that they provide guides for action to those who provide instruction.	1 2 3 4 5 6
20. Teachers incorporate opportunities for higher-order thinking.	1 2 3 4 5 6
21. The school is proactive in interpreting assessment results for members of the community.	1 2 3 4 5 6
22. The use of assessment data is addressed before assessment procedures are established.	1 2 3 4 5 6
23. Classroom practice—what is taught and what is tested—is tied to schoolwide goals.	1 2 3 4 5 6
24. The school intentionally selects just a few goals on which to focus.	1 2 3 4 5 6
25. The principal does more listening than telling.	1 2 3 4 5 6
26. Teachers seek feedback from other teachers to improve their teaching.	1 2 3 4 5 6
27. Teachers use instructional practices that stimulate curiosity.	1 2 3 4 5 6
28. Opportunities are provided for teachers to develop leadership skills.	1 2 3 4 5 6
29. Members of the community who are not parents are also involved in the school.	1 2 3 4 5 6
30. Individuals continually look for ways to improve their own performance.	1 2 3 4 5 6

Continue on next page

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Not present		Present to some extent			Present to a high degree
1	2	3	4	5	6

31. Teachers are striving to improve their own effectiveness.	1 2 3 4 5 6
32. School leaders provide adequate support to carry out ideas.	1 2 3 4 5 6
33. Teachers provide opportunities for students to reflect on their learning.	1 2 3 4 5 6
34. The principal's leadership style is characterized by "delegating power to" rather than "exercising power over."	1 2 3 4 5 6
35. School staff work actively to stay informed about the community.	1 2 3 4 5 6
36. Teachers have time to reflect upon their teaching.	1 2 3 4 5 6
37. In this school, parents are valued as members of a learning community.	1 2 3 4 5 6
38. School leaders use input from others in seeking solutions.	1 2 3 4 5 6
39. Multiple channels of communication keep segments of the school community well informed.	1 2 3 4 5 6
40. School staff engage parents as partners in their children's education.	1 2 3 4 5 6
41. The principal listens to all points of view.	1 2 3 4 5 6
42. Teachers in this school are open to innovation.	1 2 3 4 5 6
43. Decisions regarding use of resources—time, money, space, etc.—are made by reference to how well they contribute to schoolwide goals.	1 2 3 4 5 6
44. The school administration believes in shared leadership.	1 2 3 4 5 6
45. Teachers help students develop a feeling of being able to control their own futures.	1 2 3 4 5 6
46. Students are challenged to think critically.	1 2 3 4 5 6
47. Teachers engage students in problem-based learning.	1 2 3 4 5 6
48. The principal strives for meaningful community involvement in our school.	1 2 3 4 5 6
49. The purpose of the assessment program is communicated to parents.	1 2 3 4 5 6

Continue on next page

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Not present		Present to some extent			Present to a high degree
1	2	3	4	5	6

50. Instructional practices enable students to engage in self-directed learning. 1 2 3 4 5 6

51. School goals are reassessed annually. 1 2 3 4 5 6

52. Students interact frequently during the learning process. 1 2 3 4 5 6

53. Teachers are searching for ways to improve their teaching. 1 2 3 4 5 6

54. Members of the community are well informed about the school. . . 1 2 3 4 5 6

55. Teachers question established instructional procedures for the purpose of improving student learning. 1 2 3 4 5 6

56. Both teachers and school administrators support instructional experimentation. 1 2 3 4 5 6

57. Teachers, administrators, parents, and students work as a team to foster learning at this school. 1 2 3 4 5 6

58. Schoolwide goals for student learning motivate teachers to provide good instruction. 1 2 3 4 5 6

59. Administrators include teachers in the decision-making process. . . 1 2 3 4 5 6

60. Parents feel positive about our school. 1 2 3 4 5 6

Thank you for completing this questionnaire!

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AEL Continuous School Improvement Questionnaire

User Manual and Technical Report

By

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AEL
Charleston, West Virginia

September 2002

AEL is a catalyst for schools and communities to build lifelong learning systems that harness resources, research, and practical wisdom. AEL serves as the Regional Educational Laboratory (REL) for Kentucky, Tennessee, Virginia, and West Virginia. For these same four states, it operates the Eisenhower Regional Consortium for Mathematics and Science Education. In addition, it serves as the Region IV Comprehensive Center and operates the ERIC Clearinghouse on Rural Education and Small Schools. AEL houses the Institute for the Advancement of Emerging Technologies in Education (IAETE) and the Institute for the Advancement of Research in Education (IARE). The REL contract includes a Technology Specialty for the nation's system of 10 Regional Educational Laboratories.

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  These AEL staff researchers conceived and facilitated the Quest research and development project (1996-2000), during which they originated the framework and instrument that evolved into this product. With support from the network of Quest schools, Orletsky, Sattes, and Walsh also recruited participants for the pilot and field tests of the instrument.

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  This AEL research and evaluation specialist shaped much of the current template for AEL CSIQ school reports.

- Keith Sturges

  An AEL research associate, Sturges designed and conducted focus groups of practitioners from Tennessee and West Virginia, who acted as critical friends for our external review process.

- Kim Cook, Carla McClure, Sheila McEntee, Marilyn Slack, and Linda Wible

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Introduction

> *Schools focused on becoming high-performing learning communities are using [a variety of] strategies to mobilize their school communities. Whether rural, suburban, or urban; large or small; elementary or secondary—these schools are bound together by a commitment to continuous improvement. Their view of continuous improvement places high value upon building connections among individuals across a wide spectrum of their school communities and finding ways to focus the resulting energy on a shared vision and goals for student performance.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

Your decision to use the AEL Continuous School Improvement Questionnaire (AEL CSIQ) reflects a leadership commitment to building a stronger educational environment in your school community.

More than 35 years of education research and school improvement experience—by practitioners and researchers—contributed to the development of this instrument. AEL, a private nonprofit corporation, has worked since 1966 with schools, communities, districts, states, and other researchers to discover, create, and share effective educational tools and strategies. The AEL CSIQ is one such tool.

Purpose

The AEL CSIQ helps the school staff gauge its performance on six vital dimensions related to continuous school improvement. The AEL CSIQ is designed to focus educators on specific activities and characteristics that might be overlooked in a discussion or more general analysis. To the extent that the perceptions of the professional staff accurately reflect the situations, the results will identify areas of strength and weakness as the staff works toward continuous school improvement.

Intended Users

Each member of the staff responds to the AEL CSIQ individually. Generally, the smallest unit of analysis is the school, and results apply most directly to specific schools, hence the word "school" in the title. Conceivably, the AEL CSIQ could be used by a subset of educators in a school—the teachers of one or two grades, for example. On a larger scale, the AEL CSIQ may be used for comparisons across a school district, a region, or even a state. However, the most widely intended unit for applying the results is the school, and the educational staff of the school would find the results most useful.

The AEL CSIQ Respects Your Time

The AEL CSIQ takes only about 30 minutes to administer. AEL analyzes the responses for you and sends a report that discusses your school's strengths and weaknesses, based on AEL CSIQ responses.

Contents of This Manual

Any professional inventory requires (1) procedures for proper administration, scoring, and reporting of results; and (2) information about the interpretation and use of results. This manual addresses both requirements. The manual also provides information about the research base for the AEL CSIQ, and the technical report documents its development through pilot and field tests. Normative data are provided for different types of schools and for other variables found in the school setting. Charts for converting scale raw scores to percentiles also are provided. This allows you to compare your school's AEL CSIQ scores to those of other schools that have administered the questionnaire.

Benefits

Whether you use it for needs assessment, for professional development planning, or as formative evaluation to take a snapshot of progress on the continuous improvement journey, the AEL CSIQ will be an important part of your data collection tool kit.

You will find the AEL CSIQ equally valuable for its potential to start conversations about teaching and learning among staff, students, parents, and other community members. Used in this way, the AEL CSIQ can help your school create a high-performing learning community, one that makes student achievement and lifelong learning for all members its central goals. To learn more about the power of such a community, see Section II of this manual, where you will find a review of the relevant research.

For Additional Information

For assistance or for more information about continuous school improvement efforts, please contact AEL. We look forward to growing with you!

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Section I

The AEL Continuous School Improvement Questionnaire

Section I. The AEL Continuous School Improvement Questionnaire

As a school moves toward becoming a high-performing learning community, the AEL Continuous School Improvement Questionnaire (AEL CSIQ)* asks the professional staff—principals, teachers, teachers' aides, media specialists, librarians, counselors, and any others who have classroom or advisory contact with students and parents—to provide their perceptions of how the school rates on several dimensions. In this sense, the CSIQ is a self-report inventory. That is, school performance on the CSIQ is a function of the combined perceptions of the professional staff and is most useful when respondents give thoughtful replies to each item.

The Six AEL CSIQ Dimensions

The CSIQ includes 60 randomly ordered items that make up six scales of 10 items each.

S_1. Learning Culture. This scale reflects how well the culture of the school encourages learning by all—students, staff, and administrators. It reflects the extent to which the school emphasizes learning rather than passive compliance, is a safe but exciting place to be, and encourages curiosity and exploration. It also indicates the extent to which teachers have opportunities and encouragement to reflect on practice, work with others, and try new ways of teaching.

S_2. School/Family/Community Connections. This scale reflects the degree to which staff perceives that parents and community members are involved in and feel part of the school. This includes such activities as informing parents and community, forming meaningful partnerships, maintaining open communication, and honoring and respecting diverse points of view.

S_3. Shared Leadership. This scale reflects the extent to which staff view leadership as being shared—whether school administrators dominate decision making or there are mechanisms for involving teachers, students, and parents. It measures opportunities for leadership development and the extent of open, two-way communication.

*The official name of the instrument is AEL Continuous School Improvement Questionnaire, and the acronym is AEL CSIQ; for the sake of brevity, the shortened form (CSIQ) is used hereafter in this manual (except for side headings).

S_4. Shared Goals for Learning. This scale assesses the extent to which the school has clear, focused goals that are understood by all members of the school community. In addition, it reflects whether shared goals affect what is taught and how teachers teach, drive decisions about resources, focus on results for students, and are developed and "owned" by many rather than a few.

S_5. Purposeful Student Assessment. This scale reflects the extent to which respondents view student assessment data as meaningful; use data to guide instructional decisions; and believe data are communicated to the greater school community, including teachers, parents, students, and the general community.

S_6. Effective Teaching. This scale measures the extent to which teacher practice aligns with research on effective teaching. It assesses whether teachers actively engage students in a variety of learning tasks, pose questions that encourage reflection and higher-order thinking, expect students to think critically, and use teaching strategies designed to motivate students.

Each item is scored on a 6-point rating scale. Response options range from 1 ("Not present") to 6, ("Present to a high degree"). The scores of the items within a scale are summed for a total scale raw score. The raw scores are then converted to percentile scores, which are more useful for understanding a school's position relative to the schools on which the CSIQ is normed.

Administration of the AEL CSIQ

The CSIQ reports the perceptions of professional staff to help them gauge how well the school is performing on dimensions related to continuous school improvement. The CSIQ is designed to help respondents focus on specific activities and characteristics that might be overlooked in a discussion or more general analysis. To the extent that responses accurately reflect the situations and experiences at the school, the results will identify areas of strength and weakness to help the staff work toward continuous school improvement. Because responses reflect individual perceptions of the school and community, there are no correct or incorrect answers.

Preparation. Share information about the purpose (see previous paragraph) with the school staff when you announce the meeting at which the CSIQ will be administered.

As you well know, special events on the school calendar can affect everyone in the school. To get a snapshot of "normal" life at your school, plan to administer the CSIQ during a period of "normal" activity. That is, avoid days that immediately follow getting standardized test results, teacher performance reports, and the like.

Who should take the CSIQ?

- principals
- teachers
- teachers' aides
- media specialists
- librarians
- counselors
- any others who have classroom or advisory contact with students and parents

Security. Copies of the instrument should not circulate either before or after being administered. Results will be most meaningful if members of the staff answer from their own perceptions and experiences. The CSIQ items should be completed individually, without discussing their content or responses. The items are representative of many interrelated indicators and practices that distinguish high-performing learning communities. The vocabulary and content of the items were chosen so as to be clear to practicing educators.

Setting. The CSIQ should be administered to the entire professional staff of the school at the same time, probably at a faculty meeting or similar assembly. There is no time limit, but the CSIQ should be completed easily in 30 minutes. To give respondents time to carefully consider the items, the administration should not take place when people may be in a hurry to leave, such as at the close of a meeting.

Administration. Select someone, such as the principal, to introduce the CSIQ. If this person is a member of the professional staff, he or she should complete a questionnaire as well.

1. Assemble the staff in a room where each person has adequate writing space and is comfortable.

2. Minimize distractions or disruptions by asking staff to turn off cell phones and to refrain from conversation while completing the questionnaire.

3. Distribute the CSIQ forms and give everyone a pencil or pen (black or blue ink).

4. Tell respondents to fill out the top of the questionnaire: school name, district name, state, and date. Allow time for everyone to finish.

5. Read the directions printed at the top of the questionnaire aloud. Mention that there is no time limit for responding. Emphasize the importance of reading each item carefully and responding as accurately as possible based on personal experiences.

(Do not say "respond truthfully" because this implies some may otherwise be dishonest.)

6. Assure staff members of the anonymity and confidentiality of their responses. Explain that completed questionnaires will be placed in an envelope addressed to AEL (one is provided with these materials) and mailed directly to AEL. Tell them the questionnaires will not be returned to the school, so no one in the school will see the individual responses. Tell staff members there is no time limit, but most people finish in about 30 minutes. Tell them what they should do when they have completed the questionnaire.

7. Some respondents will need more time than others to complete the CSIQ. There are two options for concluding the administration: (1) have everyone remain until all are finished and then collect the forms, or (2) have staff return forms as they are completed. The first option is preferred because it causes less disruption.

8. Place all completed forms in the preaddressed envelope and seal it before the staff leaves the room, if possible. Mail the completed forms to AEL for analysis; your school report should be ready within 30 days.

The AEL CSIQ Report

After AEL scores and analyzes the CSIQ response sheets, you will receive a brief report (the AEL Continuous School Improvement Questionnaire report). If the CSIQ has been administered in two or more schools in a district, a separate report is prepared for each school. If a report is to be issued for a unit smaller than a school, such a report must be requested when the completed forms are returned.

The report contains a profile of the school's means compared to the appropriate normative group (e.g., the schools at the same level—elementary or high—and known to be high performing, or the remaining [typical] schools in the CSIQ database). The school staff should have this manual available so comparisons can be made with any normative group whose statistics are reported in the manual. Interpretive comments will be included with the results.

The sample report (Figure 1) illustrates the types of information provided by AEL for users of the CSIQ. The results and interpretation are intended to help a school staff initiate a course of action for enhancing continuous school improvement. Of course, the greater the score on each scale, the more adept the school staff is at accomplishing those things that bring about continuous improvement. The highest possible score on each scale is 60, and probably the ideal situation for continuous improvement would be scores of 60 across all scales. In practice, that

result is highly unlikely. The norms supplied in Section IV of this manual provide realistic bases for comparison. So, although the school staff should address all the dimensions that go into continuous improvement, the results on the CSIQ identify strengths and weaknesses, and, correspondingly, dimensions that may require special attention.

Use of AEL CSIQ Results

In the context of the scales and their meanings, CSIQ results suggest areas of strength and weakness and can help with planning activities or programs to address or build on these.

The most common use of CSIQ results may be for guiding professional development at either the school or district level. The results can also help a school staff to discover its status on the dimensions of continuous learning and improvement. It is not likely that results would have value for a single educator. The CSIQ applies to a group of educators as they move toward continuous learning and improvement.

Using the results should be a group effort, at both the interpretation and action stages. Promoting conversations among all members of the school community is a way the CSIQ can most powerfully contribute to building a high-performing learning community.

AEL Continuous School Improvement Questionnaire
Woods Elementary School Report

School: Woods Elementary
Anywhere USA 55555

Date of Administration: 5/10/02
Total Staff: 43
Number Responding: 37

This report provides Woods Elementary's results on the six dimensions of the AEL Continuous School Improvement Questionnaire (AEL CSIQ). These dimensions are described briefly below. Each includes 10 items, which respondents rated using a scale of 1 (Not present) to 6 (Present to a high degree). The ratings were added and averaged to get the mean scale score, which has a possible low of 10 (1 x 10 items) and a possible high of 60 (6 x 10 items).

Learning Culture reflects how well the culture of the school encourages learning by all—students, staff, and administrators. It reflects the extent to which the school emphasizes learning rather than passive compliance; is a safe but exciting place to be; encourages curiosity and exploration; and gives teachers opportunities to reflect on practice, work with others, and try new ways of teaching.

School/Family/Community Connections reflects the degree to which the staff perceives that parents and community members are involved in and feel part of the school. This includes such activities as informing parents and community, forming meaningful partnerships, maintaining open communication, and honoring and respecting diverse points of view.

Shared Leadership reflects the extent to which the staff views leadership as being shared—whether administrators dominate decision making or if there are mechanisms for involving teachers, students, and parents. It measures opportunities for leadership development and the extent of open, two-way communication.

Shared Goals for Learning assesses the extent to which the school has clear, focused goals that are understood by all members of the school community. In addition, it reflects whether shared goals affect what is taught and how teachers teach, drive decisions about resources, focus on results for students, and are developed and "owned" by many rather than a few.

Purposeful Student Assessment reflects the extent to which respondents view student assessment data as meaningful; use data to guide instructional decisions; and believe data are communicated to and understood by the greater school community, including teachers, parents, students, and the community.

Effective Teaching measures the extent to which teacher practice is aligned with research on effective teaching. It assesses whether teachers actively engage students in a variety of learning tasks, pose questions that encourage reflection and higher-order thinking, expect students to think critically, and use strategies designed to motivate students.

The table on the next page presents Woods Elementary scores in two ways. It shows the average (mean) scores and their equivalent percentiles.

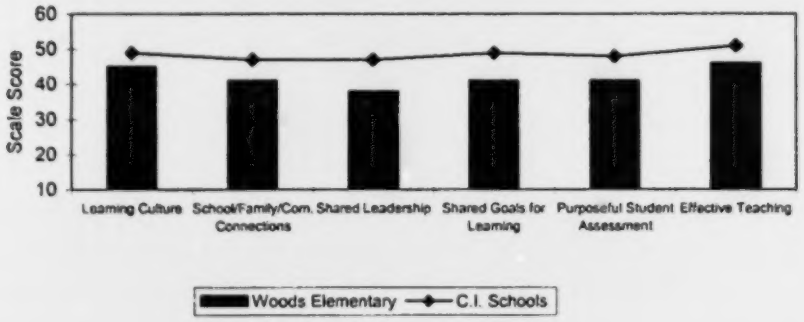
These scores also are presented in two graphs. On the first graph, the dark bars show the school's mean scores on each dimension as perceived by staff. The solid line (marked "C.I. Schools") shows the scores for the normative group—elementary schools that are known to be high performing based on (1) the achievement of their students and (2) a high sense among staff of being a continuously improving learning community. The lines serve as a point of reference for examining staff perceptions in Woods Elementary. The second graph displays the Woods Elementary mean scores after conversion to percentiles. These percentiles are based on the performance of the normative group—those elementary schools known to be high performing and continuously improving.

Woods Elementary School Results

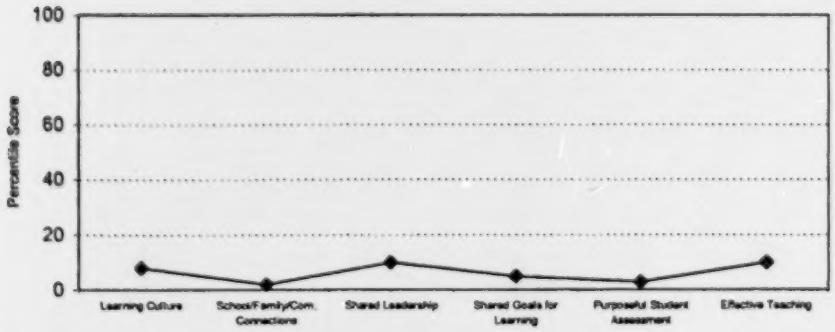
School Means and Percentiles

AEL CSIQ Scales	Means	Percentiles
Learning Culture	45	8
School/Family/Community Connections	41	2
Shared Leadership	38	10
Shared Goals for Learning	41	5
Purposeful Student Assessment	41	3
Effective Teaching	46	10

Woods Elementary School Profile of Means with those of Normative Group: Continuously Improving Elementary Schools (C.I. Schools)



Woods Elementary School Profile in Percentile Scores



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Interpretation

The means for Woods Elementary were generally lower across all scales than those of the normative group, those elementary schools known to be high performing and continuously improving. This can be seen both in the mean scale score differences (first graph) and in the positioning of the school percentiles profile (second graph). Based on the percentiles, the staff perceives the school to be especially low performing in the areas of school/family/community connections, shared goals for learning, and purposeful student assessment. Emerging strengths on which to build are the perceptions that, to some degree, effective teaching and shared leadership are practiced.

As might be expected, if Woods Elementary mean scores were compared to other elementary schools—those *not* identified as high performing and continuously improving—the positioning of the percentiles would be higher. So, when compared to elementary schools in general, Woods Elementary would score at the following percentiles on each scale as ordered in the School Means and Percentiles table: 26, 24, 16, 16, 17, and 24. For a complete set of percentile conversion tables and a full technical report on the development and testing of the instrument, refer to the *AEL CSIQ User Manual and Technical Report,* which was sent to your school or district before the AEL CSIQ was administered.

Using the AEL CSIQ Results

The school staff should address improvement in all areas. However, taking on too many improvement efforts at once can be overwhelming. Staff and administrators should design a plan that addresses the weakest areas first and continues improvement efforts over the next several years. With a total professional staff of 43, leadership for change efforts can be shared, with groups of five to six staff assigned to the issue(s) the school decides to focus on each year.

This report provides data that should prove useful in several ways. Many schools find the AEL CSIQ results useful as needs assessment for professional development and school improvement planning. The information may be used to write the rationale for components of a school's improvement plan. If this survey is readministered next year, results may be compared to show improvements across the years. Finally, these results make valuable starting points for conversations, reflections, dialogues, and actions about teaching and learning among staff, students, parents, and other community members. Used in these ways, the AEL CSIQ can facilitate the creation of a high-performing learning community, one that makes student achievement and lifelong learning for all members its central goals.

Continuously Improving, High-Performing Learning Communities

To learn more about the characteristics of continuously improving schools and high-performing learning communities, refer to the *AEL CSIQ User Manual and Technical Report.* Section II contains reviews of research on each of the six components, or scales. For practical tools, activities, and resources you can put to work right away, consult *Inside School Improvement: Creating High-Performing Learning Communities* by Jackie A. Walsh and Beth D. Sattes. (Ordering information is available from the Electronic Store on AEL's Web site—www.ael.org—or from the AEL Distribution Center at 800-624-9120.)

Section II

Research Supporting the AEL CSIQ Dimensions

Section II. Research Supporting the AEL CSIQ Dimensions

Ever since education has been recognized as a profession, attempts to improve schools have had an ebb-and-flow history. School reform and exemplary school programs have been implemented with various degrees of success. Federal and state funding programs have directly or indirectly aimed to improve schools.

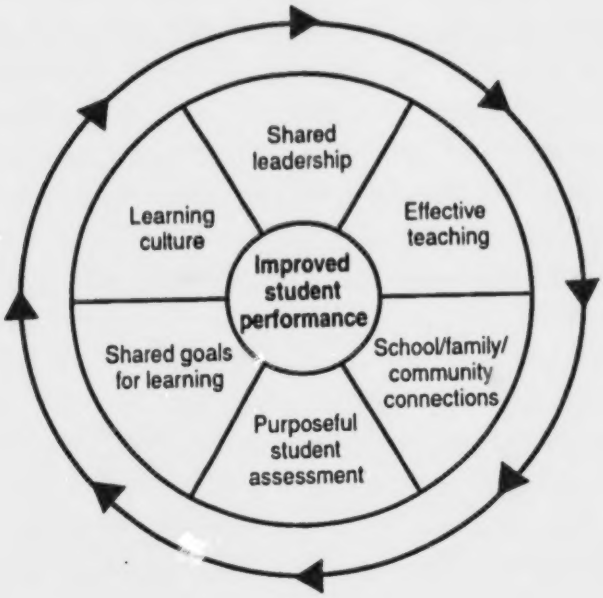
The staff of a school planning an improvement effort faces two major challenges: (1) "getting a handle on" how to commence and (2) keeping the improvement process going. To address the first, a logical starting point is assessing the school on the "scale" of improvement. To do this, schools need a conceptual framework that outlines the dimensions of school improvement. The school's instructional program and the elements that affect it—such as home and community—include many interrelated items, some wholly or partially within the control of the school and others over which the school exercises no control. A conceptual framework needs to be workable; it cannot consist of a long "laundry list" of items, yet it must have enough specificity to provide direction for action.

Although there may be ancillary goals, such as improved teacher morale, the ultimate goal of school improvement is improved student performance. This goal has received increased prominence due to recent emphasis on proficiency and performance testing.

AEL, in its role as a regional educational laboratory, has been committed to research on school improvement efforts since 1966. Among AEL's projects was Quest (1996-2000), a network of school communities located in Kentucky, Tennessee, Virginia, and West Virginia. Quest schools were dedicated to building learning communities that support high levels of student and adult performance. The Quest Network for Quality Learning Communities emphasized six components, or dimensions, essential for successful student learning—dimensions that evolved into the conceptual framework that supports the CSIQ. During their collaboration with AEL, Quest schools contributed to the CSIQ research base (Howley-Rowe, 2000a, 2000b, 2000c, 2000d) and participated in the pilot test.

AEL's basis for school improvement is embodied in its research-based framework. AEL's Framework for Transforming Low-Performing Schools into High-Performing Learning Communities (see Figure 2), underlies the CSIQ and other AEL products and services. The circle representing improved student performance sits in the middle, indicating that all school improvement efforts ultimately are directed to this goal. The arrows outside the circle indicate the dynamic nature of this framework: the dimensions are interactive and they require continuous action on the part of the school community.

Figure 2. AEL's Framework for the CSIQ



Brief summaries of research that support each of these dimensions, provided here, can help schools learn more about starting and sustaining efforts to raise student achievement levels.

Learning Culture

> *Imagine a school where culture encourages everyone who walks its hallways to become excited about learning and to set high expectations for their own and others' achievement. What would such a school look and feel like? . . . A strong learning culture is customized to the school community that it supports. One size does not fit all. No two are exactly alike.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

Organizational culture is both a mirror and a maker of how things are done in an organization, what is valued by its members, and what the organization strives to do. While there are many definitions of culture in the research literature, two values that are central to high-performing learning communities are the beliefs that all students can learn at high levels and that teachers' actions matter.

Learning attitudes. Bandura (1982) claims "the strength of groups, organizations, and even nations lies partly in people's sense of collective efficacy that they can solve their problems and improve their lives through concerted effort" (p. 143).

Hipp (1996) found results suggesting that "though group purpose may affect staff individually . . . its strength lies in the impact on the group as a whole—what teachers can do together to succeed" (p. 26). Thus, the attitudes of teachers in effective schools include beliefs in their own ability to be successful, in the ability of their colleagues to be supportive, and in their individual responsibilities for proactively improving their own practice.

Louis, Kruse, and Marks (1996) found that quality schools were likely to have a stable, professional community of experienced teachers with shared norms, values, and goals; a common focus on student learning; a willingness to collaborate; and an openness to reflection and new ideas—all directed toward high student achievement. Building on these components, AEL researchers developed a teacher questionnaire around the schoolwide professional community and employed it in several studies (Cowley, 2000; Meehan, Cowley, & Burns, 2000).

In a four-year qualitative study of a school that supported a high-performing learning community across the tenures of four principals, Hord (1997) identified critical components of school staff as professional learning communities and developed a set of 17 descriptors of those components. Meehan, Orletsky, and Sattes (1997) reformatted and field-tested the Hord descriptors and found them useful as a screening, filtering, or measuring device to assess the maturity of a school's professional staff as a learning community.

As a corollary to their belief that they can make a difference, efficacious teachers believe that all students can learn at high levels. The presence of high expectations for acceptable student performance and behaviors, along with requirements and other policies that help communicate and effectuate such expectations, has been cited as a crucial characteristic of virtually all unusually effective schools. Levine and Lezotte (1990) cite more than 20 research studies in which the effects of teachers' expectations for students have been examined.

Learning behaviors. Many researchers have observed that teachers and administrators in unusually effective schools exhibit a problem-solving orientation and willingness to change existing practices and try more effective approaches (Doll, 1969; Brookover & Lezotte, 1979; Levine & Stark, 1981; Taylor, 1984). Teaching materials, time use, and grouping practices are all means to support learning. Teachers in effective schools examine all of these supports to find ways to improve teaching and learning.

To demonstrate efficacious behavior, teachers must receive support from the school leadership. Teachers who feel support for their ongoing learning and classroom

practice are more committed and effective than those who do not (Rosenholtz, quoted in Hord, 1997). This support goes beyond words. Leaders of schools with high student achievement "worked effectively to stimulate professional discussion and to create the networks of conversation that tied faculty together around common issues of instruction and teaching" (Louis, Kruse, & Marks, 1996, p. 194). Schools that succeed despite adverse conditions are often organized so teachers can collaborate (Fullan, 1991). Specifically, leaders of schools that value collaboration provide common planning time, arrange for mutual observation of teaching, and welcome other activities that lead to a culture of collaboration and communication within the faculty (McDonald, 2001). Moreover, working collaboratively helps all teachers better support change efforts and feel more involved in reform (Fullan, 1998). Finding or creating time to permit expected changes in teacher activity is necessary if improvements are to occur (Walsh & Sattes, 2000).

In important and fundamental ways, the work of teachers and students should change in schools that seek to become more effective. "Deep changes—in how people think, what they believe, how they see the world—are difficult, if not impossible, to achieve through compliance" (Senge et al., 1999, p. 13). When compliance is replaced by collaboration—and includes the conditions needed to support collaboration—then the conditions for success can be realized, and teachers and students can achieve at higher and higher levels.

Professional development. Also important to creating and sustaining collaboration and improving teaching and learning is professional development. Teachers value professional development that deals with the problems they confront. To explain the value of one training experience, a teacher said, "The emphasis throughout . . . was on the exchange of practical teaching techniques and on making training an integral part of a collaborative educational environment" (Stedman, 1987, p. 220). If the school wants to change how teaching and learning occur, it follows logically that professional development must also change. The U.S. Department of Education's Professional Development Team (2002) emphasized several elements in its principles for high-quality professional development programs. They state that successful programs

- focus on individual, collegial, and organizational improvement
- promote continuous inquiry and improvement embedded in the daily life of schools
- are planned collaboratively by those who will participate in and facilitate the school's development
- require substantial time and other resources
- are driven by a coherent long-term plan

Summary. In high-performing learning communities, there is a collective sense that all students can learn at high levels and that teachers' actions make a difference in student learning. School leaders support collaboration and encourage problem-solving behaviors. Teachers and administrators seek and value high-quality professional development programs.

School/Family/Community Connections

> *One of the primary challenges of continuous school improvement is to revitalize the school's relationships to community and thereby enrich learning and community.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

An important emerging theme in both sociology and education literature is the symbiotic relationship between schools and communities. That is, communities can help create great schools and schools can help create great communities. In a study of exemplary school improvement programs in rural schools, for example, researchers at the North Central Regional Educational Laboratory found that one factor contributing to success was the integration of school and community (D'Amico, 2000). In some communities, schools function as community centers, delivering integrated social services to members of the community. "The school as community center model has been used in a number of states. For example, Kentucky's 1990 education reform act (KERA) set up Family Resource and Youth Services Centers in schools, with the long-term goal of bolstering student achievement" (Collins, 2001, p. 18). Thus, the school and the community become partners in achieving mutually important goals.

Unfortunately, schools sometimes fail to appreciate the value of working with the community. "Rural education scholars like [Alan] DeYoung and Paul Theobald believe that [schools'] consideration of 'the community' is too often *instrumental,* focusing on what the district needs to get from voters. Too seldom is it *substantive,* focusing on how the school can help sustain the locality of which it is, or should be, an important part" (Howley, Hadden, & Harmon, 2000, p. 150).

Bridges to community. People who live and work in the community—whether or not they have children in the school—are important assets to school improvement efforts. Most communities include what researchers from the Annie E. Casey Foundation call *natural helpers*—professionals who live and work with community youth through parks and recreation departments, child care centers, or community health centers. They can act as bridges between schools and families in the community. These people are identified as part of the community, often have extensive social networks within the area, and are

personally respected and influential. Because they live in the community where they work, they naturally have a greater stake in its well-being and future than do professionals who work in the community but reside elsewhere (Flaxman, 2001).

Engaging with the community has many advantages for the faculty and students of a school. The community can become an extension of the classroom as the life of the community becomes an important part of the curriculum. Kushman and Barnhardt (1999) studied seven communities in Alaska that worked with the schools to integrate the indigenous knowledge system with the formal education structure. Thomas Hatch (1998) studied a network of more than 100 Alliance schools dedicated to developing a constituency of parents, community leaders, and educators. He observed that educators who witnessed parents and community members working on behalf of students and schools were heartened and felt more accountable for the quality of their instruction.

Relationships with families. Even more important than community for student achievement may be relationships between schools and families. Joyce Epstein and other researchers have confirmed both the importance and nature of family influence on children's academic success (Epstein, 1992; Henderson & Berla, 1994). Again, a high degree of congruence between the values and aspirations of the school and the family is important. Scholars of rural education have observed that asking students to aspire to achievements that are alien to "the knowledge structures of their parents (and community) drives a wedge between family and school" (Spears, Combs, & Bailey, 1990, p. 6). The importance of beliefs was emphasized in Reginald Clark's study of poor African American families. He identified several differences between the families of high-achieving and low-achieving children. For example, the families of high-achieving students frequently initiated contact with the school and expected to play major roles in schooling. They established achievement-related norms and expected their children to be accountable for their achievement (Clark, 1983).

Parents' involvement in their children's school and education needs to be focused and purposeful. Generalized programs of "improved parent involvement" are less likely to be successful than are specific opportunities to work on problems that are important to families. Levine and Lezotte (1990, p. 11) reviewed studies of unusually effective schools and observed that many schools talk about parent involvement. However, they say,

> examining case studies of unusually effective schools with high parent involvement and/or visiting such schools in person suggests to us that they have identified and emphasized parent involvement activities that are somehow particularly salient in terms of the most serious problems that they face at a given point in time. . . . Stated differently, more seems to be happening than some general effort to increase parental communications or build more positive school and home relationships. (p. 24)

Increasingly, state legislatures are mandating parent involvement in school decision making. Such mandatory relationships have the potential to be adversarial, but they can also bring about real improvements. Newmann and Wehlage (1995) studied school restructuring efforts in many areas of the country and found that

> parent involvement contributed most to a school when it reflected consensus between parents and staff over the school's mission. If there was general agreement about the school's mission, then parent involvement provided important help and reinforced collective responsibility for student success. Such consensus affirmed respect for the professionalism of the staff and promoted a strong effort on behalf of student learning. (p. 49)

Parents can provide important support for their children's learning without being involved in larger issues of school governance. Unfortunately, in many ways, schools have taught many parents to be disengaged. Proactive work by teachers and principals will be needed to communicate new expectations and responsibilities for parents. Among teacher practices that can facilitate home-school relations are selecting relevant tasks and literature, connecting through talk, and communicating with parents (McCarthey, 1999).

Summary. Schools can be more successful in encouraging and fostering high degrees of learning when parents and communities are true partners in the process. At the same time, schools should recognize the importance of their commitment to the communities in which they are situated. The best results are achieved when members of the school staff, families, and communities (1) understand their own roles in fostering student learning and (2) respect what each member contributes.

Shared Leadership

> *Sharing leadership means that you don't have to have all the answers, but you have to be willing to admire all of the questions. It means involving students and parents, faculty, and staff in creating an atmosphere where everyone feels an equal part of what's going on. It means being willing to take the extra time to arrive at decisions by consensus.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

There seems to be agreement that highly effective schools are characterized by effective leadership. Without such leadership, a school is little more than a set of independent classrooms, each pursuing individual goals without a shared understanding about what is important to be learned. Such a school lacks a coherent, widely shared set of beliefs about the school's mission (Mayer, Mullens, & Moore, 2000). Sustained high

levels of student achievement are more likely to occur in schools with effective leadership (Deal & Peterson, 1998; Fullan, 1998; Levine & Lezotte, 1990). An Educational Research Service study on school leadership found that "researchers, policy makers and educational practitioners agree: good school principals are the keystone of good schools. Without the principal's leadership, efforts to raise student achievement cannot succeed" (ERS, 2000, p. 5).

Leadership continuum. Recently there has been increased interest in the notion of shared leadership. A body of literature strongly indicates principals must collaborate and distribute leadership functions (Berman & Chambliss, 2000; Elmore, 2000; Fullan & Hargreaves, 1992; Hallinger & Heck, 1996; Hoy & Miskell, 1991). One group of researchers (King, Louis, Marks, & Peterson, 1996) proposed a "power continuum" to locate leadership in schools. At one extreme, power is consolidated in the principal, district personnel, or a small group of teachers. At the other extreme, decision making is shared widely and participants have equal access and voice.

King and colleagues (1996, p. 255) collected data suggesting that schools were more likely to support high levels of learning when power was shared among the participants. The "broad participation, reciprocity, and collective focus on important issues characteristic of shared power" best facilitated reaching the goals of improved teaching and learning.

Louis and colleagues (1996, p. 194) reached similar conclusions about shared leadership. These researchers found that leaders in schools with high student achievement "worked effectively to stimulate professional discussion and to create the networks of conversation that tied faculty together around common issues of instruction and teaching." In such a school, the principal "delegated authority, developed collaborative decision-making processes, and stepped back from being the central problem solver." Other researchers have come to similar conclusions (Leithwood, Jantzi, & Fernandez, 1995; Louis, Kruse, & Associates, 1995; Murphy, 1994).

Leadership characteristics. In a study of several school restructuring efforts, Newmann and Wehlage (1995) identified the characteristics of leaders in schools with high-achieving students. In their report, the term "school leaders" included both principals and teacher leaders who

- gave central attention to building a schoolwide, collective focus on student learning of high intellectual quality
- placed issues of teaching and learning at the center of dialogue among the entire school community
- gave concrete expression to the norms and values that comprise the school's vision

- created time for reflective inquiry and opportunities for substantive staff development
- saw themselves at the center rather than at the top of their schools' organization
- shared power with staff and often with parents
- applied important political and entrepreneurial skills to relationships beyond the school

Reducing leader overload. Given the range of leadership tasks in schools, some people have suggested that one person simply cannot do the job. The Institute for Educational Leadership (IEL) created a task force to study the principalship. Citing a research synthesis of 15 years' work by Hallinger and Heck, the IEL group stated that school leaders exercise measurable but indirect effects on school effectiveness and student achievement. Principals create their impact by shaping goals, providing direction, and creating structures and networks. The IEL task force concluded, "School systems should recognize that one person cannot provide effective leadership for student learning while tending to the thousand tasks traditionally heaped on principals. Instead, school systems must recognize the need to provide principals with the resources and flexibility to delegate specific responsibilities, distribute leadership or head up school leadership teams as needed" (IEL, 2000, p. 13).

The solution to the problem of principal overload may, indeed, reside in some kind of shared leadership. An important result of shared leadership is that more people experience commitment to the improvement goals. Individuals in schools better support change efforts and feel more involved when working collaboratively (Fullan & Stiegelbauer, 1991; Whitford, 2000). The efforts of a single, strong leader may move a school forward with jump-start solutions, but shared leadership and collaboration are essential if change is to be effectively implemented and sustained (Corallo & McDonald, 2002; Rosenholtz, 1989).

One type of collaboration that school administrators and staff may engage in involves other organizations that work in the school improvement field. For example, Meehan, Wiersma, and Riffle (2001) reported on a multiyear study of collaboration among staff of a regional educational laboratory and members of several levels of educational organizations, including schools. They found consistently strong, positive relationships between the level of satisfaction with the collaboration and the perceived impact of the products and services from the laboratory (p. 20).

Sharing leadership with the community. Schools do not exist in social vacuums. They influence and are influenced by the communities in which they are situated. The political culture of a community "profoundly affects" patterns of

participation in school decision making (Davies, 1981). An important study of shared decision making was conducted in the Salt Lake City Schools by Malen and Ogawa (1988). This study reported on a critical test of the ability of site-based governance arrangements to alter decision-making relationships. It offered a unique opportunity to examine whether certain key factors—notably the creation of site-based councils with broad jurisdiction, formal policymaking authority, parity protections, and training provisions—actually enabled teachers and parents to wield substantial influence on school policy. Despite the presence of these highly favorable conditions, teachers and parents did not wield significant influence. Rather, principals continued to strongly influence decisions in the school councils. This study suggests that getting other people to accept responsibilities may be as difficult as getting principals to give up their accustomed authority. Malen and Ogawa point out that "the research . . . underscores the difficulty of establishing arrangements that will fundamentally alter principal, teacher, and parent influence relationships" (p. 266).

Thus, more than a policy-level commitment to shared decision making is probably necessary. Fullan suggests that what is needed is not restructuring of schools, but reculturing. "Restructuring bears no direct relationship to improvements in teaching and learning. Reculturing, by contrast, involves changing the norms, values, incentives, skills, and relationships in the organization to foster a different way of working together. Reculturing makes a difference in teaching and learning" (Fullan, 1998, p. 9).

Summary. Our social tradition of bureaucratic organizations has conditioned principals, teachers, parents, and students to believe that the principal is "in charge" of the school. This belief in the responsibility of the principal to make decisions and to be accountable for school outcomes has impeded the development of shared leadership. Recent school improvement work strongly suggests that dispersing leadership throughout the organization and sharing leadership with the community are likely to lead to improved student outcomes and increased commitment to the goals of the school. A re-culturing of the school will enable people to adopt the supportive beliefs and values, as well as the behaviors, appropriate to a school that truly practices shared leadership.

Shared Goals for Learning

> *A shared vision connects people in the school community around a common idea. A strong, shared vision actually helps us focus our attention on the possibilities and potentials—not the problems and pitfalls. The vision lays the foundation block for the culture of the school; it has great power to energize and mobilize.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

Schools can be marked by intense isolation among teachers, between teachers and administrators, and between parents and teachers. Yet we know that in successful organizations people feel connected to one another and to the work of the organization. An important characteristic of a successful school is that everyone in the school understands and agrees on what the school is trying to do. That is, they share common goals. A clear vision, expressed through specific goals and high expectations, guides action and contributes to improved student achievement (Cotton, 2000; Levine & Lezotte, 1990).

Sometimes, goals get lost in the rituals of schools: they are created and then largely forgotten. However, goals can become an important part of the fabric of the school when all activities are aimed at achieving them (Marks, Doane, & Secada, 1996). Successful schools begin by identifying and communicating a set of goals and then implementing those goals, actively seeking the support of key stakeholders (Bryk, Lee & Holland, 1993; Chubb & Moe, 1990; Newmann & Wehlage, 1995). These key stakeholders include the faculty and staff of the school, as well as parents and community members. Shared goals can focus needs assessment activities, which then generate data that provide a solid base for informed decisions about instructional issues (Corallo & McDonald, 2002; Kotter, 1990). In this way, goals prompt *and* sustain continuous improvement.

Characteristics of a good goal set. Many people find that helpful goals have some common characteristics. First, a *few, easily-remembered goals* are better than a long list of elaborately worded goal statements. Because people must often make immediate decisions during classroom instruction and faculty meetings, and as they evaluate learning activities, they are more likely to implement a few clearly worded goals than a long list. When workable goals become part of the internal culture of the school community, all activities can be aimed at achieving them (Marks, Doane, & Secada, 1996).

Because there are only a few goals, they should be carefully crafted to focus attention on the aspects of the school that can be considered *priorities*. Goals that are very narrow (affecting only one or two grades or groups of students, for example) are unlikely to be seen as important by everyone. Likewise, goals that are too broad may be interpreted to mean just about anything. It may be helpful to think of the goals as the foundation on which all the actions of the school can rest and be supported.

Third, goals should be *related to standards* (Teddlie & Stringfield, 1993). This is especially important given current standards-based accountability systems. Goals based on the criteria by which the school will be judged make it easier for the school community to support the goals and to evaluate the degree to which the goals have been accomplished.

Fourth, goals should be stated in such a way that they *drive action*. The goal statements should guide mundane decisions that may seem, at first glance, unrelated to school improvement—such as dress codes and faculty meeting agendas—as well as essential decisions about graduation requirements, scheduling of students and courses, instructional delivery, and so forth (Bryk, Lee, & Holland, 1993; Chubb & Moe, 1990).

Goals, then, can be thought of as destinations; they're not road maps, but if we know where we're going, then planning the trip becomes much easier. Well-articulated goals that are widely supported increase the likelihood that everyone will reach the destination together.

Shared understanding of goals. In schools that value shared leadership, a widespread understanding of important goals is crucial (O'Neill, 2000; Teddlie & Stringfield, 1993). This makes sense: if a number of individuals make important decisions, then the decision makers must share a common set of goals so they can act in concert. Research has repeatedly revealed that low-performing organizations struggle because members don't clearly understand the purpose(s) of the organization and their own roles in helping the organization reach its goals (Senge, 1990).

Goals that are shared among school faculty and staff also help to articulate the specific vision of school improvement. School reform relies on defining and pursuing clear, measurable goals and benchmarks for achieving these goals (Hansel, 2001; Schmoker, 1996). For example, implementation of instruction should be monitored by measuring small successes that advance those articulated goals (Fullan & Stiegelbauer, 1991; WestEd, 2000). When selecting strategies for continuous school improvement, a number of specific actions will be identified. As these actions are taken, all members of the school community should be able to understand how each action contributes to attaining the goals. Progress toward the goals will help to generate a spirit of collaboration and sustain willingness to support the school goals. (Housman & Martinez, 2001).

The impact of shared goals should be observable. When analyzing the performance of the school over the past year, school staff should try to identify how the goals were translated into actions that led to improvements. If some goals have been achieved, they can be replaced by others that represent future opportunities. The goals should be specific enough to sustain a coherent focus over time and to encourage the development of additional goals related to the school's mission (Newmann & Wehlage, 1995). The process of articulating goals never ends. As new challenges arise, new goals will be needed.

Summary. Common goals help teachers, students, parents, and community members focus their actions so that they translate into desirable results. Ideally, goals should be realistic, clearly stated, measurable, and widely understood and supported.

Purposeful Student Assessment

> *This complex, controversial subject lies at the heart of continuous school improvement. When assessment becomes a topic for conversation in schools, stakeholders at all levels are afforded opportunities to take ownership for improving student performance—and, as a result, test scores.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

Much of the work of school and learning improvement has to do with decision making—targeting appropriate areas for improvement, deciding which students are ready for which lessons, determining whether activities have resulted in learning, and moving a group of students to a new topic. Teachers use textbooks, technology tools, and their own knowledge to help students learn and make connections to what has been learned in the past. How do teachers know that what they have taught has been learned? How do they assess the effectiveness of their teaching practices? How do they combine their results with other teachers' assessments to ensure that all students make progress? While there are no guarantees, the likelihood of success increases if these decisions are based on reliable student achievement data.

Most experts agree that multiple measures of student achievement and organizational performance are best (Bernhardt, 1998; Garcia, 2000; Ligon, 1996). That is, many sources and kinds of data will yield a more comprehensive picture of school performance. The National Education Goals Panel held a series of hearings around the nation to determine strategies used by schools to create success. One of the key strategies was the use of data to drive improvement efforts (Rothman, 2000). Other recent studies of successful school districts identified as a crucial attribute the use of data to make and monitor improvement decisions (Cawelti & Protheroe, 2001; NCDPI, 2000; Ragland, Asera, & Johnson, 1999; Skrla, Scheurich, & Johnson, 2000; WestEd, 2000).

Using data for continuous improvement. There has been a large increase in the data available to schools since the 1970s, when state departments of education became more active in requiring that schools report the results of instruction (Stiggins, 1999). Many departments of education selected or created tests that reflected the academic and curricular standards that all students were expected to meet. However, school-based educators have sometimes found the results of such annual tests to be of limited value in planning instruction. This is not to say that teachers and schools don't and can't use standardized test data to make instructional decisions. While many principals tend to place more value on direct observation than on data analysis (Herman et al., 1990), teachers use diagnostic assessments to guide grouping practices and to determine which students may need additional assistance (Cawelti & Protheroe, 2001). The issue seems not to be whether teachers and principals can and should use student data as a strategy for

improving instruction. Rather, questions about data now focus on what kinds of data schools need and how these can be used to monitor and improve the programs of study.

Helping schools move from interpreting standardized test scores to developing ongoing school improvement and evaluation strategies can be a challenge (Massell, 2000). Achievement data can be used to identify students who need additional help if they are to master the objectives being studied. Group data can be helpful for identifying areas of the curriculum that prove more problematic for students.

Information from standardized tests alone, however, will not be sufficient; educators need a variety of evidence about achievement. This can include teacher-made tests, students' work on projects, and teachers' observations of students' progress. Frequent testing and the use of both formative and summative assessments are important for making school decisions (Bernhardt, 1998; Herman & Gribbons, 2001; Rabinowitz & Ananda, 2001; Reeves, 2000). High-performing learning communities continually examine student achievement using a variety of indicators so that all students can reach high standards (Cawelti & Protheroe, 2001).

Data can be analyzed in a variety of ways. Many schools have found it helpful to disaggregate their student achievement data. This simply means grouping the scores of similar students together and then comparing the results of these subgroups. Typically, achievement data are disaggregated by gender, race, or socioeconomic status, often using eligibility for free and reduced-price meals as a proxy measure for economic status. Disaggregation of data can help uncover differences in learning rates of subpopulations (Bernhardt, 1998; Garcia 2000; Johnson, 1997).

To be most useful, data should be placed into a meaningful context. There are several ways to do this (Reichardt, 2000). For example, achievement data for third-grade students this year can be compared with achievement data of third-grade students for the last several years. Similarly, data can be compared to specific standards. And data from one school can be compared with achievement data from other schools and/or districts.

Reporting the results. Achievement data need to be shared with several audiences. First, the whole faculty needs to be aware of how students in all grades/classes are performing. In an effective school, sharing results can create a system of internal accountability in which all staff have a strongly felt sense of responsibility and personal accountability for student learning (Newmann & Wehlage, 1995). Thus, all teachers have a stake in the attainments of all students. Schools that are committed to continuous improvement will find that collaborative analysis of student outcome data reinforces the sense of effectiveness that all teachers feel and renews their commitment to the goal of improving learning for all students.

Results of student assessment should also be communicated to parents and community members, who need to know how well the school is performing. When reporting to these constituencies, consider how they prefer to receive information and

what the basic messages are. For many parents, written reports from the teacher may be sufficient. However, more detailed information will help parents understand how they can help their children do well and can communicate the message that this school has high expectations for all students (Doyle et al., 1993; Reeves, 2000). Moreover, if the school is committed to creating a community of learners in a community of learning, then all the stakeholders need to be aware of how well the school is doing so they can help to plan future improvements.

Summary. Multiple measures of student achievement and organizational performance can help schools and individual teachers measure progress and identify areas of needed improvement. Sharing achievement with the school and community can create a climate of shared accountability for enhancing student learning.

Effective Teaching

> *Whether talking together about effective strategies for engaging the unmotivated student or observing and being observed for the purpose of giving and receiving feedback, teachers are beginning to look to colleagues for assistance, support, and solutions.*
>
> Jackie A. Walsh & Beth D. Sattes, *Inside School Improvement*

Most people would agree that if students don't learn, teaching has not been effective. The National Council of Teachers of Mathematics (NCTM) has said "learning occurs as students actively assimilate new information and experiences and construct their own learning" (1991, p. 2). It seems commonsensical to observe that what a student is able to learn is affected by the teacher, for it is in the relationship between the teacher and the student that learning begins. Thus, teacher effectiveness is a paramount consideration for school success.

Reviewing recent research on teacher quality, Mayer and colleagues (2001) identify four characteristics of effective teachers. Such teachers

- have high academic skills
- are required to teach in the field in which they receive their training
- have more than a few years of experience
- participate in high-quality induction and professional development programs (p. 5)

In a 1992 study, Hanushek estimated that the difference in annual achievement growth between students who had a good teacher and those who had an ineffective teacher was more than one grade-level equivalent in test performance (p. 107). Later, Rivkin, Hanushek, and Kain determined that the most significant variations in student achievement are related to teacher quality (1998, p. 23). These findings match those of

William Sanders and June Rivers, who tracked the impact of both effective and ineffective teachers on students (1996).

Effective attitudes. What, then, are some actions, beliefs, and orientations that distinguish effective from ineffective teachers? One is that effective teachers believe in their efficacy. That is, they believe their actions have an impact on their students. Guskey and Passaro (1994, p. 638) define teacher efficacy as "the belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated." Efficacious teachers believe what they do will determine both their own success and that of their students. Therefore, they take responsibility for improving their performance. Teachers with a strong sense of their own efficacy are more likely to be proactive about adopting new classroom behaviors.

This proactive orientation is captured by Levine and Lezotte (1990, p. 11): "If what we (faculty) are doing is not working for students, particularly low achievers, we will identify the obstacles we face and try something else that may overcome them." It is important to note the *we* in this statement. It is much easier to bring about improvements in teaching practice if teachers do not feel isolated. Many teachers have observed that working with their colleagues in activities related to teaching—studying student achievement data, participating in meaningful staff development, and planning school improvement programs—is a powerful motivator. Yet, many schools continue to use teaching schedules, space allocations, and other structures that keep teachers isolated.

Effective behaviors. Along with attitudes, the behaviors of effective teachers differ from those of less effective teachers. During the 1970s and 1980s, a number of studies of effective teaching examined what might be thought of as microskills: how time on task was maintained, how procedures were taught, how feedback was provided. More recently, however, the emphasis in research on teaching effectiveness has shifted, reflecting a change in the view of how learning occurs. These studies have focused on how teachers create and manage conditions that enable students to be more reflective about their learning and to assimilate new knowledge with old knowledge. Thus, while teachers continue to play a crucial role in the teaching/learning process, the approach they take has changed.

Effective teachers are constantly looking for ways to improve student learning. One way to do this is by examining the usefulness of instructional materials provided for the class. Sizemore, Brossard, and Harrigan (1983) found that teachers in the schools they studied were active in adapting basal readers to better meet the needs of their students. By contrast, Shirley Jackson found that teachers in less effective schools seemed to be "controlled by the mechanics in the management aspects of their instructional system" (1982, p. 151). Efficacious teachers, then, do not take for granted that anything in their environment is a given.

Enabling effective students. Walsh and Sattes (2000) have observed that teachers cannot make students successful; students must achieve this for themselves. They go on to say that teachers can create environments in which curiosity reigns and students are enabled to take charge of their learning. In such environments, students are more likely to think about what they are doing. Many researchers have observed that the active use of knowledge comes about when students engage in learning activities that require such thinking. Philip Schlecty (1990) has described teachers as designers of meaningful student work. That is, the value that a teacher brings to the lesson arises from the planning and creation of learning activities that require students to do the work, not to watch the teacher doing the work. Some teachers use activities such as Socratic seminars, microsociety, and cooperative learning to engage student interest, promote interaction among students, encourage greater thinking (and, therefore, greater learning), and redefine teaching as coaching rather than dispensing of knowledge.

Newmann and Wehlage have observed that in effective schools, students learn they are expected to work hard to master challenging academic material; the adults are confident the students can be successful if they work hard; and people are willing to help one another work and learn, without judging anyone as "stupid" if their early attempts are not wholly successful (1995). For Newmann and Wehlage, there is less attention paid to where the class work is centered: "Whether teacher-centered or student-centered, instruction should be designed to promote the three main qualities of authentic achievement: higher order thinking, deep knowledge, and substantive conversation" (1995, p. 16). Effective teachers can foster the development of complex thinking in students by creating an environment that supports such complexity while simultaneously providing the support students need to be successful.

Summary. Effective teaching is more likely to occur when teachers have adequate training and experience in teaching specific subject matter, believe in their own ability to influence student learning, create environments that promote student learning, and inspire their students to believe that hard work will lead to mastery.

Section III

Pilot and Field Tests of the AEL CSIQ

Section III. Pilot and Field Tests of the AEL CSIQ

Since 1966, AEL has demonstrated its commitment to school improvement through applied research and technical assistance to states, districts, and individual schools. From 1996 through 2000, AEL recruited and supported a network of schools under an applied research project called Quest. Schools in the Quest Network for Quality Learning Communities were dedicated to building learning communities that support high levels of student and adult performance.

AEL project staff built Quest around six overarching concepts, which they and the collaborating practitioners posited as essential for learning. To help measure and assess the progress of the Quest staff and schools, an instrument was needed. The concepts that guided the Quest work and activities evolved into the conceptual framework that undergirds the AEL Continuous School Improvement Questionnaire (AEL CSIQ). During their collaboration with AEL, Quest schools contributed to the instrument's research base and participated in the pilot test.

Pilot Test

Initially, 147 items were generated for the AEL CSIQ. This 147-item version was administered to 274 educators in Spring 2000 as a pilot test (Wiersma, 2000). The number of items per dimension, or scale, varied from 20 to 27. Although all items had content validity, some had technical deficiencies in construction and were eliminated or revised as a result of the pilot test.

In addition to the technically deficient items, the 147-item CSIQ had two other undesirable features: (1) 147 items comprised a long inventory very demanding of respondents, and (2) unequal numbers of items per scale complicated presenting profiles of scale scores. Thus, as part of the pilot test analysis, the decision was made to reduce the number of items to 15 per scale. Technically deficient items were eliminated as were those having the lowest item-to-scale score correlations.

Internal Consistency Reliability

A potential disadvantage of reducing inventory length is reducing the reliability of the scales. The reliabilities of the CSIQ and its scales were estimated with the Cronbach alpha coefficient, a measure of the internal consistency reliability of a scale. Alpha reliability estimates of the original scales, those with 20 to 27 items, ranged from .94 to .98, with the total score having a reliability of .99. When all scales were reduced to 15 items, the scale alpha reliabilities ranged from .90 to .97, with the reliability of the total score remaining at 99. The alpha coefficients showed that the CSIQ scales were highly

reliable, and a further reduction to 12 items per scale was considered in the pilot test. All items on the 15-item scales were technically well constructed, so three items were eliminated from each. Again, the criterion of lowest item-to-scale score correlation was used for dropping items. The reliability estimates for the 12-item scales ranged from .89 to .97, and the reliability estimate for the total 72-item score was .98. These reliability estimates were considered highly satisfactory, and the 72-item version of the CSIQ was used for the initial field test.

Field Tests

To develop the CSIQ, the pilot test focused on refining the inventory's feasibility for use in schools including any part or all of grades K-12. The overriding purposes of the field tests were to determine the performance levels on the CSIQ for a large base of educators, to investigate possible differences by type of school (level taught), and to explore other variables and CSIQ scores.

The initial field test, conducted in fall 2000, included 2,093 educators, primarily K-12 teachers, in 79 schools. In this initial field test, the internal consistency reliability estimates of the scores of the scales remained highly stable. One scale had a Cronbach alpha coefficient of .91, three had .94, and two had .96. The alpha reliability estimate of the total score was .98. Reducing the number of items per scale had no significant effects on the internal consistency reliability estimates.

Following a 2001 use of the 72-item CSIQ instrument with 25 Tennessee schools, the decision was made to further reduce the length to 60 items (the items eliminated had the lowest item-to-scale score correlations) and to keep the number of items per scale consistent at 10. At this time, the items, previously grouped by scales, were placed in random order. This version was then administered to 75 additional schools in Tennessee.

Data from the initial field test and the subsequent administrations in Tennessee (Wiersma, 2001) were used for the normative groups described later in this manual. For the initial field test and 25-school administration in Tennessee, the additional two items per scale were eliminated for this analysis. Further, only schools with at least 10 respondents were included in this analysis. After the above file transformations were completed and duplicate schools were identified and removed, the resulting database included 3,821 cases from 132 schools.

Stability Reliability

Throughout the development of the CSIQ, even as the numbers of items were reduced, the internal consistency reliability of the scales and total score remained high. To obtain a measure of stability reliability, approximately 300 educators were measured

twice, allowing about a three-week interval between the administrations. These educators were located in 20 schools across a four-state region (Kentucky, Tennessee, Virginia, and West Virginia—AEL's regional educational laboratory service area), including seven elementary, three middle, six high, and four middle/high school configurations. The participating schools were considered a good cross section of schools in the region. The results of this "Test-Retest" administration are given in Table 1.

Table 1
Frequencies (N) and Correlation Coefficients (r) for Test-Retest of the CSIQ Scales and Total Score

Scale	N	r
S_1	306	.70
S_2	305	.75
S_3	299	.81
S_4	293	.76
S_5	296	.70
S_6	303	.66
Total	257	.80

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

The test-retest correlations ranged from .66 to .81, which showed two results: (1) considerable stability across time for the CSIQ measures and (2) similar stability for each of the scales. The Pearson-Product Moment correlation coefficient is a measure of the relative positioning of the scores being correlated and the magnitude of the difference between these scores on the variables. An inspection of the test-retest mean scores showed very little difference—less than 1.0—in the scale means. For most of the scales, the retest mean was the greater, however slightly, of the pair.

Concurrent Validity

The School Climate Questionnaire* (SCQ) is an inventory designed to measure teachers' perceptions of the school. It contains 10 rating-scale items, with a rating scale having 20 points. On the surface, it appears that item content is related to factors of school improvement. If so, the correlation of scores on the SCQ with scores on the CSIQ would serve as a measure of concurrent validity for the CSIQ.

In the pilot study, the SCQ was administered concurrently with the CSIQ to 274 educators. The correlation between the total scores on the CSIQ and the SCQ was .75 and, for the pilot study, the internal consistency reliability coefficient for the SCQ was .97. So, both measures were highly reliable. If the SCQ measures the status of progress toward continuous improvement, this result provides evidence of the concurrent validity of the CSIQ.

Construct Validity

Factor analysis is a technique that generates artificial variables (factors) representing the one or more constructs measured by the entire inventory or test, in this case the 60 items of the CSIQ. Although factors are artificial variables, they are defined or described in terms of the variables (60 items) on which they are based. Factor loadings, correlations between the scores on individual items and factors, serve this purpose. Thus, a high positive factor loading indicates that the item contributes extensively to the composition of the factor.

A desirable outcome of factor analysis is to have as many noteworthy factors as there are logical constructs underlying the concept being studied. For the CSIQ, it would be desirable to have the 60 items form six factors, with each factor being equivalent to a dimension, or scale.

Three factor analyses were computed, one each for elementary schools and high schools, and one for the two groups combined. The elementary group included scores for about 1,750 educators from 81 schools, and the high school group included scores for about 680 educators from 17 schools. So, the data quantities for the factor analyses were substantial.

Manning, G., Curtis, K., & McMillen, S. (1996). Building community: The human side of work*. Cincinnati, OH: Thomson Executive Press. In the directions, the respondent is asked to rate each of the 10 dimensions of school climate as reflected by conditions in the respondent's school.

The factor analyses were Principal Axis, Varimax Rotation factorings. This approach is an orthogonal rotation, which means that the factors extracted are uncorrelated or independent. The commonly used criterion for retaining extracted factors is to retain those with an eigenvalue of 1.0 or greater. That criterion was followed in these analyses with one exception; the sixth factor extracted for the high school group had an eigenvalue of .924, but it was retained because it was high and the factor fit scale S_5 (Purposeful Student Assessment).

Reporting results of factor analyses can be cumbersome and extensive because factor loadings are correlations between items and factors, and the CSIQ contains 60 items. If each scale corresponded with a factor, the factor loading matrix would contain 360 correlation coefficients. The desirable result is for the items of a scale to load heavily on (have high correlations with) one factor and to have low or zero loadings on other factors. This result occurred with all three factor analyses. So, the results in the following three factor loading tables show the 10 items and the factor most closely representing the construct measured by the scale. The accepted criterion for reporting loadings equal to or greater than .30 was used for constructing the tables.

One additional comment applies to the results in the following tables: Factors are extracted in the order of greatest variance in the item scores. Thus, the first factor extracted accounts for more variance, and also has a greater eigenvalue, than the second factor, and so on. The order in which factors were extracted relative to the scales was not the same for the analyses. For example, for the elementary group, the first factor extracted corresponded to scale S_6 (Effective Teaching), but for the entire group and the high school group, the first factor extracted corresponded to scale S_3 (Shared Leadership).

Instead of having 360 factor loadings per table, the next three tables (2, 3, and 4) each contain 60 loadings. To explain the information in the tables, consider Factor 1 of Table 2. S_6 (Effective Teaching) loads heavily on this factor, and the 10 factor loadings of the first column are the correlations between the 10 items of S_6 and Factor 1. These factor loadings range from .60 to .78, certainly substantial loadings. The construct related to effective teaching most heavily underlies continuous improvement in the elementary schools.

Table 2
Factor Loadings by Item Number and Factor Scale, Elementary School Group

	Factor Number and Corresponding Scale					
Item No.	$1/S_6$	$2/S_3$	$3/S_4$	$4/S_2$	$5/S_1$	$6/S_5$
1	.60	.75	.46	.40	.56	.38
2	.73	.77	.64	.65	.53	.44
3	.70	.74	.63	.75	.72	.42
4	.69	.82	.68	.74	.58	.53
5	.70	.85	.69	.61	.72	.55
6	.72	.68	.64	.66	.36	.61
7	.78	.81	.57	.41	.30	.57
8	.74	.72	.64	.39	.41	-.57
9	.77	.75	.54	.34	.45	.59
10	.77	.56	.56	.39	.33	.38

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 3
Factor Loadings by Item Number and Factor Scale, High School Group

	Factor Number and Corresponding Scale					
Item No.	1/S_3	2/S_6	3/S_4	4/S_2	5/S_1	6/S_5
1	.73	.62	.42	.50	.53	.34
2	.74	.73	.57	.64	.58	.38
3	.78	.72	.60	.65	.73	.30
4	.83	.68	.63	.72	.61	.45
5	.84	.70	.65	.63	.70	.44
6	.69	.68	.61	.64	.41	.53
7	.81	.72	.57	.56	.35	.48
8	.73	.70	.60	.59	.47	.59
9	.78	.76	.49	.52	.46	.64
10	.63	.75	.50	.57	.46	.45

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 4
Factor Loadings by Item Number and Factor Scale, Combined Group

	Factor Number and Corresponding Scale					
Item No.	1/S_3	2/S_6	3/S_4	4/S_1	5/S_2	6/S_5
1	.76	.61	.45	.54	.44	.41
2	.78	.72	.63	.55	.65	.47
3	.77	.70	.63	.71	.74	.43
4	.82	.68	.67	.60	.72	.54
5	.86	.70	.70	.71	.64	.53
6	.69	.72	.65	.45	.66	.60
7	.81	.76	.58	.36	.43	.56
8	.73	.73	.64	.52	.40	-.56
9	.77	.77	.54	.51	.37	.58
10	.61	.76	.55	.49	.40	.42

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Interesting similarities and differences appeared in these factor analyses. Although there were occasional loadings greater than .30 for items from a scale other than the one associated with a factor, these were relatively few, and the loadings tended to be only slightly above .30. So, these factor analyses were exceptionally "clear." That is, each scale was closely associated with only one factor, indicating that the CSIQ has six underlying constructs, each measured quite well by a scale.

The loadings within each factor were remarkably consistent both in magnitude and direction. In the three tables, there are only two loadings less than .30 (indicated by dashes) and only two negative loadings. A negative loading indicates that low scores on the item are associated with the factor. For all three analyses, the six factors extracted accounted for around 60 percent of the variance.

A difference among the three analyses was the order in which scales were associated with the factors extracted. Even though no two orders matched exactly, similarities can be seen by listing the orders.

Elementary	S_6	S_3	S_4	S_2	S_1	S_5
High School	S_3	S_6	S_4	S_2	S_1	S_5
Combined	S_3	S_6	S_4	S_1	S_2	S_5

Note that scale S_4, Shared Goals for Learning, was associated with the third factor extracted for all three analyses, and scale S_5, Purposeful Student Assessment, was associated with the final factor extracted. Scale S_6, Effective Teaching, and scale S_3, Shared Leadership, were associated with the first and second factors extracted. Finally, the first two scales were in either the fourth or fifth position relative to extracted factors.

The factor analyses provided analytical support for the construct validity of the CSIQ. The fact that six factors were quite "clearly" extracted, and that the scales had clear associations with these factors, supported the notion that six constructs underlie continuous improvement as measured by the CSIQ. Finally, the patterns of association of scales with the order of the factors extracted shows the similarity of results across the different groups.

The application of the CSIQ in the field has fostered its development into a usable, 60-item inventory. The CSIQ was reduced from 147 items with unequal numbers of items in scales to a more manageable length of 10 items in each scale. More important, the CSIQ was found to be technically sound. Internal consistency reliability was high for all scales, as was stability reliability. The items had face validity based on the item content, and the factor analyses provided strong support for the construct validity of the entire inventory as reflected by the scales.

When used for its intended purpose, the CSIQ is valid and reliable.

Section IV

Normative Information on the AEL CSIQ

Section IV. Normative Information on the AEL CSIQ

Results from tests or inventories are useful only when there is some basis for interpreting them. Norms are typically the basis for interpretation, popular because they are familiar and understandable. Norms are the scores (from tests, inventories, or other instruments) or, more commonly, statistics generated from such scores, of one or more defined groups considered to be representative of larger populations.

Norms provide a basis for comparisons. They generally have credibility because, assuming they are appropriate, they represent typical expected results. In the case of the CSIQ, the most useful statistics for normative data are the scale means converted to percentiles for comparison to schools known to be continuously improving.

This section of the manual provides (1) normative data on the CSIQ for six different types (levels) of schools, mostly in table and chart formats; (2) normative data for schools known to be continuously improving and high performing, again in table and chart formats; (3) normative data by the schools' type of locale (Johnson) codes; (4) the interrelationships among the six CSIQ scales; and (5) tables for converting the CSIQ scale scores to percentiles.

Normative Scores by Type of School

School staff generally want to see normative information based on schools similar to their own. Within the CSIQ normative database are numerous school configurations, varying from senior high schools with only Grades 10-12 to schools with Grades PreK-12. The 132 schools used as the base for calculating CSIQ norms were categorized into six types. The types and numbers of schools are as follows:

Elementary	81
Middle	19
High	7
Middle/High	10
PreK-12	3
Vocational	2

The elementary group had more than 61 percent of the schools. These schools had as few as two grades, 4 and 5, and as many as 10, PreK-8. More than one half (42) of the schools had a K-5 configuration, and the predominant configurations were K-4, K-5, and K-6.

The middle schools ranged across grades 5-9, although only one school contained a ninth grade.

Most high schools, 15 of 17, had a grades 9-12 configuration. One senior high school included grades 10-12 and one school contained only grade 9.

In the middle/high school group, most schools had either grades 6-12 or grades 7-12. One included grades 5-12, and another grades 8-12.

There were two schools with grades K-12 and one with grades PreK-12. These three schools, spanning such a wide grade range, comprised a separate type.

Finally, the two vocational schools made up a unique type.

Normative data stabilize as the number of scores from schools and educators increases. The initial administration of the CSIQ provided substantial numbers for some school types—elementary, middle, high school, and, to a lesser extent, middle/high. The PreK-12 and vocational schools had very limited numbers but, due to their unique configurations, they were retained as separate types.

The total number of educators who completed at least part of the CSIQ in the two field tests was 3,821 across all schools. The numbers of respondents by school type are given in subsequent tables. As expected, respondents omitted items on occasion, so the frequencies were not the same within a school type across all the scales. The majority of respondents were teachers, but principals and other professional staff members also completed the CSIQ. So, the school types are referred to as groups.

All schools had at least 10 respondents completing the CSIQ. The approximate average numbers of respondents per school by school type were as follows:

Elementary	25
Middle	30
High	45
Middle/High	28
PreK-12	24
Vocational	18

These averages were expected; that is, high schools had on the average the greatest number of staff.

Most schools (94, more than 71 percent) were located in Tennessee. West Virginia had 16 schools, Kentucky 13, and Virginia 9.

Tables 5 through 11 contain the normative statistics for each school type and the entire group. Statistics are given for each scale and for the CSIQ total score. These include the frequencies, means, standard deviations, and Cronbach alpha reliability coefficients. The frequencies show the numbers of respondents who completed the scales and, for the total, the number who completed all 60 items. Immediately following each table is the corresponding profile of the CSIQ scale means (Figures 3 through 9).

The minimum and maximum means for the normative groups are given in Tables 12 and 13 as added information about type-of-school results on the CSIQ. Of course, the numbers of schools in these groups vary greatly, from 81 for elementary to only 2 vocational schools. Whereas Tables 5 through11 show the averages of the means for each school group, Tables 12 and 13 show the extremes for the means and provide ranges for those means.

Table 5
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, Elementary School Group

Scale	N	M	SD	Υ_α
S_1	2,018	49.2	7.3	.89
S_2	2,013	47.3	8.7	.93
S_3	1,964	47.6	10.1	.96
S_4	1,945	49.3	7.9	.93
S_5	1,972	48.8	7.9	.93
S_6	2,005	50.8	7.6	.96
Total	1,758	292.9	41.0	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

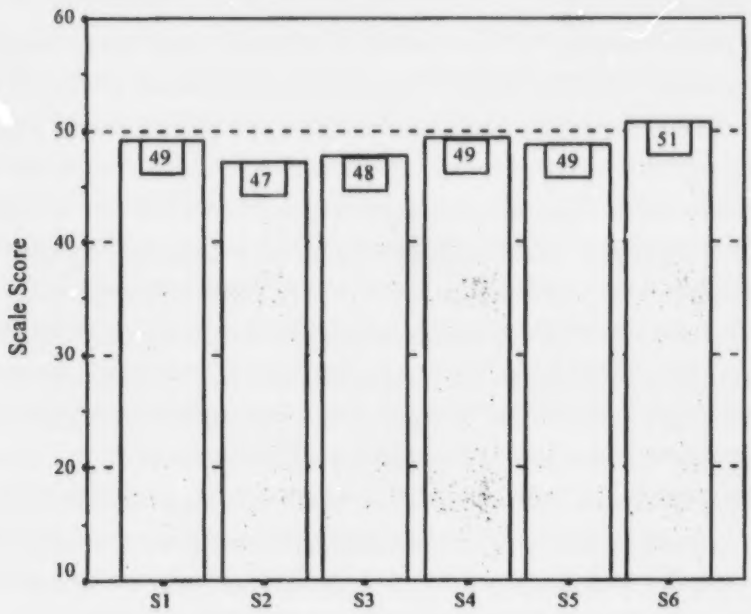


Figure 3. Profile of CSIQ Scale Means, Elementary School Group

Table 6
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, Middle School Group

Scale	N	M	SD	Υ_α
S_1	566	46.0	7.5	.89
S_2	564	43.7	9.4	.94
S_3	553	45.4	10.8	.96
S_4	551	44.7	9.1	.93
S_5	547	44.0	8.7	.93
S_6	570	47.6	7.8	.95
Total	502	270.2	43.7	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

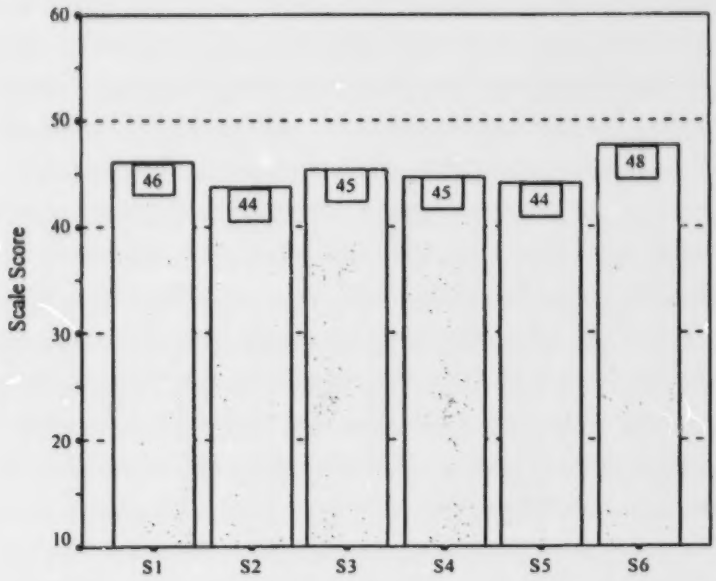


Figure 4. Profile of CSIQ Scale Means, Middle School Group

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Table 7
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, High School Group

Scale	N	M	SD	Υ_α
S_1	774	46.8	7.2	.89
S_2	765	44.4	8.6	.93
S_3	761	45.6	10.1	.96
S_4	754	45.4	8.3	.92
S_5	752	44.7	8.6	.93
S_6	773	47.8	7.8	.95
Total	683	274.4	42.4	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

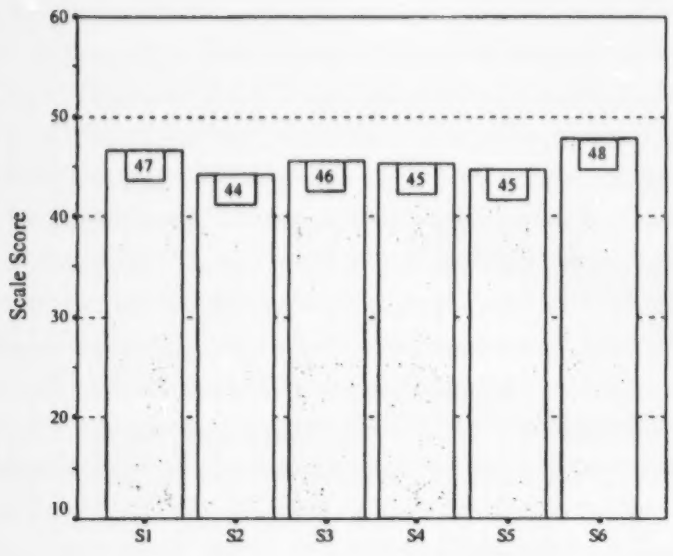

Figure 5. Profile of CSIQ Scale Means, High School Group

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Table 8
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, Middle/High School Group

Scale	N	M	SD	Υ_α
S_1	277	46.0	7.8	.90
S_2	277	43.2	10.1	.94
S_3	276	43.8	11.7	.96
S_4	268	43.4	9.2	.93
S_5	267	43.3	9.2	.93
S_6	275	48.1	8.0	.95
Total	249	266.9	45.3	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

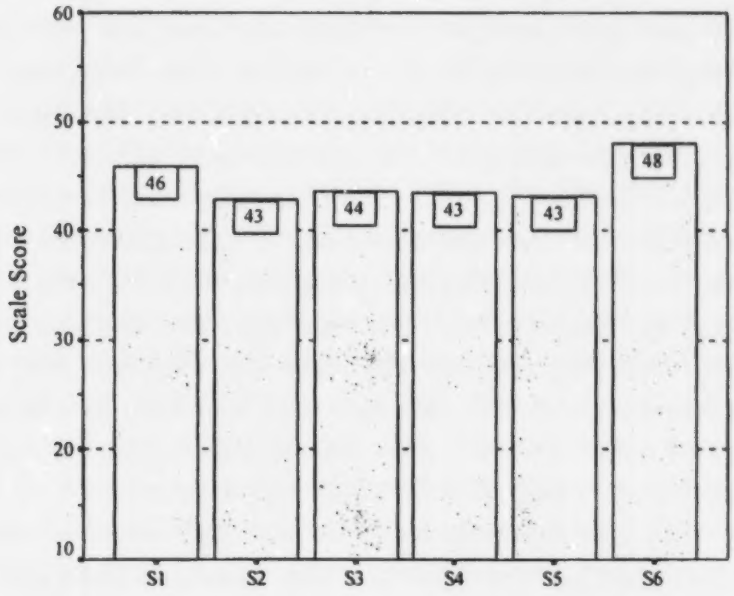

Figure 6. Profile of CSIQ Scale Means, Middle/High School Group

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Table 9
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, PreK-12 School Group

Scale	N	M	SD	Υ_α
S_1	73	47.6	7.2	.89
S_2	72	45.4	7.8	.90
S_3	72	47.3	10.8	.97
S_4	69	46.6	7.2	.89
S_5	68	47.0	8.1	.92
S_6	72	48.9	6.2	.91
Total	65	283.3	33.8	.96

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

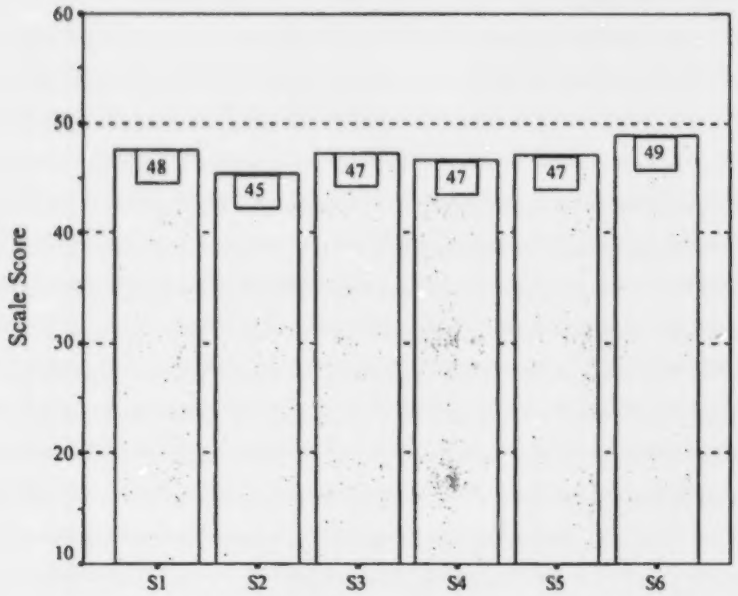

Figure 7. Profile of CSIQ Scale Means, PreK-12 School Group

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Table 10
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, Vocational School Group

Scale	N	M	SD	Υ_α
S_1	36	39.8	8.5	.86
S_2	38	37.0	9.7	.89
S_3	36	41.7	12.1	.95
S_4	36	39.6	10.7	.96
S_5	33	35.7	11.9	.96
S_6	39	43.7	9.8	.94
Total	28	239.2	57.5	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

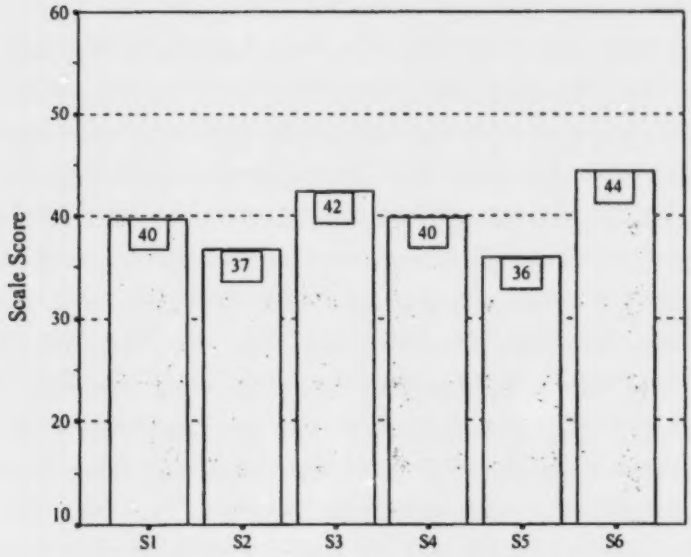

Figure 8. Profile of CSIQ Scale Means, Vocational School Group

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Table 11
Frequencies (N), Means (M), Standard Deviations (SD), and Cronbach Alpha Reliability Estimates (Υ_α) for CSIQ Scales and Total, Across All School Groups

Scale	N	M	SD	Υ_α
S_1	3744	47.9	7.5	.90
S_2	3729	45.7	9.1	.93
S_3	3662	46.5	10.5	.96
S_4	3623	47.2	8.6	.93
S_5	3639	46.7	8.7	.93
S_6	3734	49.4	7.8	.96
Total	3285	283.0	43.6	.98

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

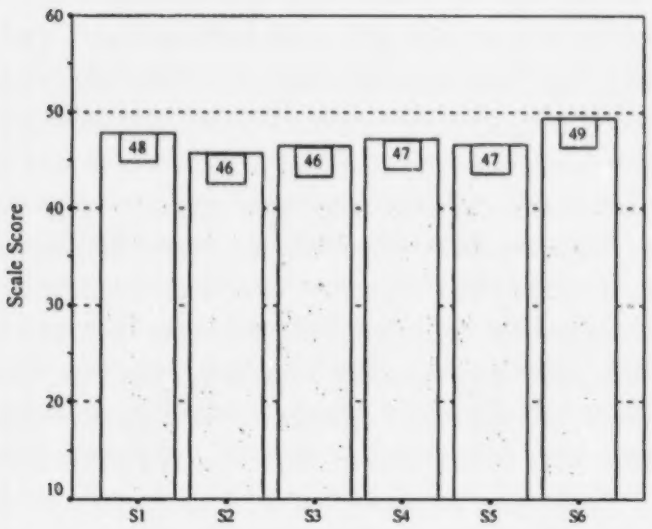

Figure 9. Profile of CSIQ Scale Means, Across All School Groups

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Table 12
Minimum and Maximum School Means for the CSIQ Scales and Total Score for Elementary, Middle, and High School Groups

	Elementary		Middle		High School	
Scale	Min	Max	Min	Max	Min	Max
S_1	40.0	56.2	39.2	55.3	39.2	51.1
S_2	36.9	56.7	35.0	55.3	37.7	51.3
S_3	31.2	58.8	31.9	53.9	34.2	52.9
S_4	40.4	58.1	33.1	53.3	40.2	50.6
S_5	37.3	57.6	35.1	53.4	38.1	49.0
S_6	40.6	57.5	41.4	56.0	42.1	51.6
Total	235.2	340.0	223.7	324.6	239.9	305.0

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Table 13
Minimum and Maximum School Means for the CSIQ Scales and Total Score for Middle/High, PreK-12, and Vocational School Groups

	Middle/High		PreK-12		Vocational	
Scale	Min	Max	Min	Max	Min	Max
S_1	40.9	53.4	46.4	48.2	39.7	40.0
S_2	30.6	52.9	43.2	50.0	36.7	37.1
S_3	27.6	51.4	33.8	52.3	40.9	43.2
S_4	36.8	48.9	45.4	47.3	39.5	39.7
S_5	36.4	49.2	46.9	47.4	34.1	38.2
S_6	44.1	54.1	47.8	49.6	43.6	43.7
Total	216.9	307.0	268.4	291.6	239.1	239.2

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

Normative Scores for Continuously Improving and High-Performing Schools

Although all of the schools providing normative scores were identified to the CSIQ developers in terms of type and location of school, there were some schools known to belong to one of the following two categories:

1. identified as continuously improving schools based on involvement with AEL. The elementary schools selected were the "stars" of the Network of Quest Schools (Howley-Rowe, 2000a).

2. identified as high-performing schools by the Tennessee Department of Education. School Report Cards judged student performance to be high on both level of achievement and the Tennessee Value-Added Assessment.

These schools, which are referred to as "Known" schools, were agreed upon by the AEL research team, for the purposes of norming, as possessing positive characteristics relative to continuous improvement and student performance.

There were 11 Known schools: five elementary, one middle, three high, and two middle/high schools. Four of the school types had one or more schools in the Known group. However, the numbers of CSIQ respondents in the Known schools were limited, even for the elementary and high school groups. The high school group had the largest number of respondents in the Known schools, with 154 to 159 completing the scales of the CSIQ.

Within the school types, the scores of respondents in the Known schools were separated from those of respondents in the remaining schools and the CSIQ means calculated. Those means, along with the frequencies, are given in Tables 14 through 17, a table for each school type. The corresponding profiles of their means are given in Figures 10 through 13. Throughout, the Known schools are compared with the other 121 schools in the normative database. These other schools are referred to as "Remaining" schools.

The Known elementary school respondents consistently had higher mean scores than their counterparts in the Remaining schools. The mean for the Known Total was more than 27 points greater than the Total mean of the Remaining schools.

The pattern was very different for the middle school group, which consisted of CSIQ scores from a single school. Except for the means for S_1 (Learning Culture) and S_6 (Effective Teaching), the means for respondents in the Known school were substantially lower than those in the Remaining schools. There were slightly more than 30 respondents for this Known school, so this does not comprise a large group for comparison. The scores of respondents in this Known school may have been more a function of the specific school than the fact that it was a middle school.

Table 14
Frequencies (N) and Means (M) for CSIQ Scales and Total by Known and Remaining Schools, Elementary School Group

	Known		Remaining	
Scale	N	M	N	M
S_1	134	54.0	1,884	48.9
S_2	135	53.6	1,878	46.8
S_3	125	50.7	1,839	47.4
S_4	124	53.3	1,821	49.0
S_5	130	53.2	1,842	48.4
S_6	133	54.1	1,872	50.6
Total	110	318.6	1,648	291.2

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

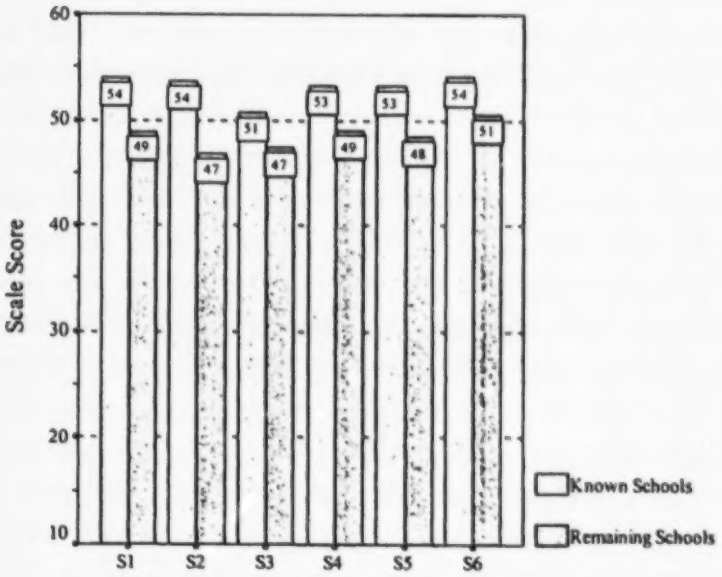

Figure 10. Profiles of CSIQ Scale Means, Known and Remaining Elementary Schools

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Table 15
Frequencies (N) and Means (M) for CSIQ Scales and Total by Known and Remaining Schools, Middle School Group

	Known		Remaining	
Scale	N	M	N	M
S_1	34	47.3	532	46.0
S_2	34	40.9	530	43.9
S_3	29	31.9	524	46.1
S_4	30	38.2	521	45.1
S_5	31	39.2	516	44.3
S_6	34	47.8	536	47.6
Total	27	246.6	475	271.6

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

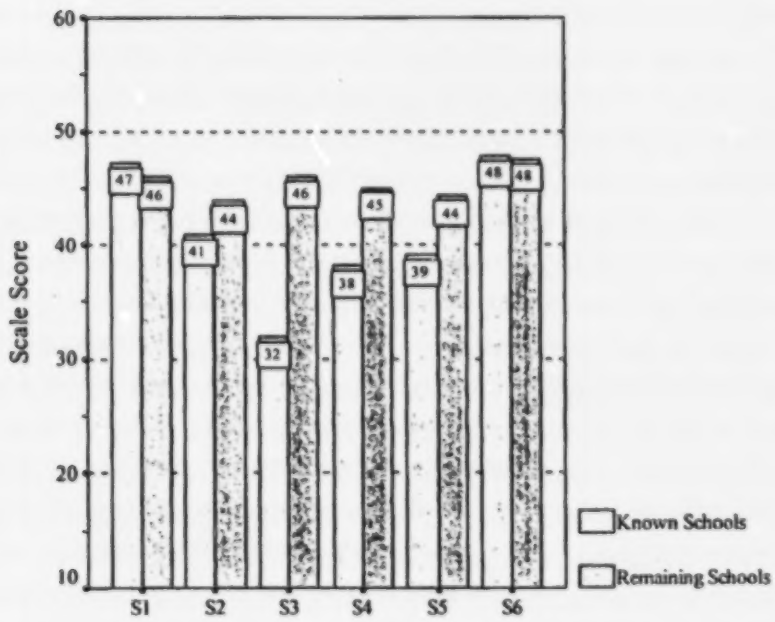

Figure 11. Profiles of CSIQ Scale Means, Known and Remaining Middle Schools

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Table 16
Frequencies (N) and Means (M) for CSIQ Scales and Total by Known and Remaining Schools, High School Group

	Known		Remaining	
Scale	N	M	N	M
S_1	158	49.4	616	46.1
S_2	159	47.6	606	43.5
S_3	154	47.2	607	45.2
S_4	156	46.6	598	45.2
S_5	155	47.2	597	44.1
S_6	155	49.6	618	47.3
Total	142	286.5	541	271.3

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

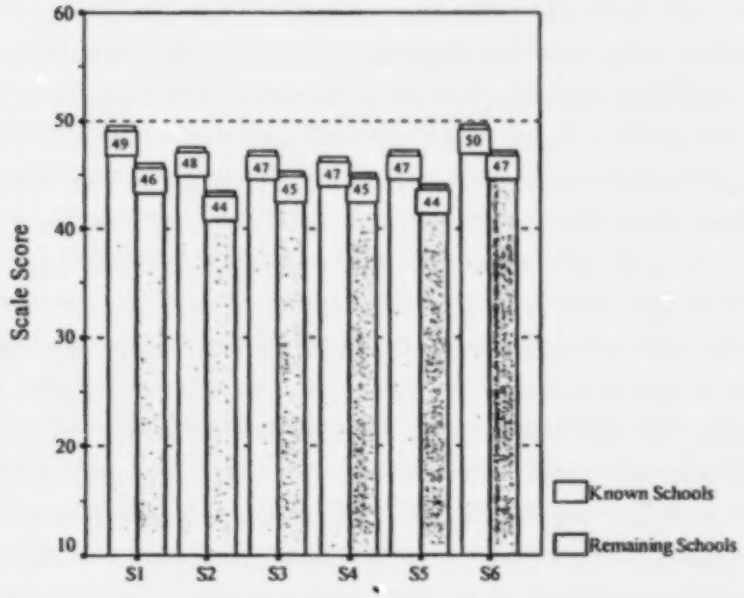

Figure 12. Profiles of CSIQ Scale Means, Known and Remaining High Schools

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Table 17
Frequencies (N) and Means (M) for CSIQ Scales and Total by Known and Remaining Schools, Middle/High School Group

	Known		Remaining	
Scale	N	M	N	M
S_1	57	51.3	220	44.6
S_2	57	47.7	220	42.0
S_3	55	44.8	221	43.6
S_4	56	46.5	212	42.6
S_5	54	47.1	213	42.4
S_6	56	52.9	219	46.9
Total	51	288.2	198	261.4

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

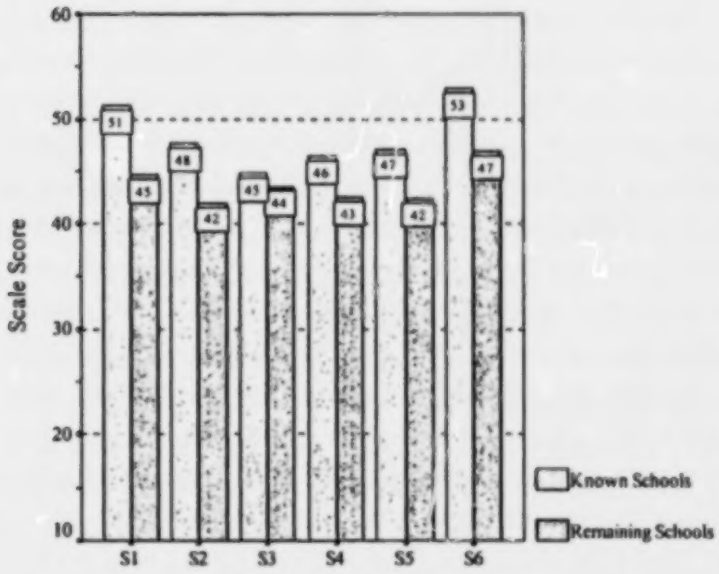

Figure 13. Profiles of CSIQ Scale Means, Known and Remaining Middle/High Schools

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The high school group consistently had greater means for the Known schools than those of the Remaining schools. The difference in the total score means was slightly more than 15, with the Known school respondents being greater.

The pattern for the middle/high school group was similar. That is, respondents in the Known schools consistently had greater means than their counterparts in the Remaining schools. The difference between the total score means was almost 27 points. Again, the numbers of respondents in the Known schools were limited, those numbers being in the 50s.

Comparisons to the Known schools must be done with caution, largely due to the limited numbers of CSIQ respondents in these schools. Discounting the middle school group, which had respondents in only one Known school, the patterns showed that respondents in the Known schools had greater means than those in the Remaining schools. This result in part supports the assumption that educators in continuously improving and high-performing schools will score higher on the CSIQ than those in schools not so designated. Also, those patterns support the validity of the CSIQ in measuring factors that impact the staff's progress toward continuous improvement.

Normative Scores by Johnson Codes

Schools where educators completed the CSIQ were identified according to Johnson Locale Type Codes, a classification system in which the first category (1) is the most urban and the seventh (7) is the most rural.*

The means, by Johnson Codes, are given in Table 18. These means go across types of schools, and the frequency row (N) gives the number of respondents for the total scales. The frequencies for the scales are not given, but, for the most part, they were slightly greater than the frequencies for the total.

An inspection of the means in Table 18 shows that (1) overall, the means of the scales varied little across the Johnson Codes, and (2) there was no linear pattern relating the size of the means to the extent of urbanity-rurality. The total scores had more variability simply because the Total scale contains 60 items, six times the number of items in the individual scales.

The means of the most rural classification (7) were positioned somewhat in the middle of the means on most scales and the total. For no measures did it have either the greatest or smallest mean. The most urban classification (1) also had means positioned

*National Center for Education Statistics, (1998). *1997-1998 common core of data: Information on public schools and school districts in the United States*. Public elementary/secondary school universe survey data. Washington, DC: Author. Retrieved July 2000, from http://nces.ed.gov/ccd/pubschuniv.html.

Table 18
Frequencies (N) and CSIQ Scales and Total Score Means by Johnson Locale Codes, Across All School Types

	Johnson Locale Codes						
Scale	1	2	3	4	5	6	7
1	50.4	47.0	51.4	46.5	46.9	50.7	48.4
2	46.8	44.2	49.3	46.2	46.5	49.4	44.7
3	46.6	46.2	49.6	46.4	44.2	49.0	46.0
4	49.0	46.8	49.5	47.1	45.9	48.6	46.3
5	48.7	45.6	49.1	46.5	45.3	48.4	46.6
6	51.2	48.7	51.6	49.0	48.0	51.2	49.0
Total	293.2	278.1	297.9	282.3	274.5	296.7	280.6
N	370	1106	66	869	107	244	523

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

somewhat in the middle. For total score, it had the third highest mean. Locale Type Code 3 quite consistently had the greatest mean (the only exception being S_3), but this result likely was a function of the specific schools, rather than its position in the Johnson Codes. There is no evidence that scores on the CSIQ scales are related to the extent of urbanity or rurality of the school locale.

Relationships Among the AEL CSIQ Scales

Although the factor analysis with an orthogonal rotation generated six independent factors, the scales of the CSIQ are by no means independent, nor was independence expected. A review of the item content would indicate that scale scores are related and, logically, correlations between the scores would be positive.

Table 19 contains the correlation coefficients (Pearson-Product-Moment) among the CSIQ scale scores and the Total score. The total tends to correlate quite highly with all the scale scores, in part because the total score consists of the sum of the scale scores.*

Table 19
Correlation Coefficients Among CSIQ Scales and Total Score

Scale	S_2	S_3	S_4	S_5	S_6	Total
S_1	.68	.52	.63	.68	.72	.83
S_2		.61	.66	.70	.62	.85
S_3			.65	.58	.42	.78
S_4				.79	.62	.87
S_5					.71	.89
S_6						.80

S_1: Learning Culture
S_2: School/Family/Community Connections
S_3: Shared Leadership
S_4: Shared Goals for Learning
S_5: Purposeful Student Assessment
S_6: Effective Teaching

The correlations among the scale scores generally are lower and more variable than the correlations of the total score with scale scores. The following results were found in the patterns of the scale correlations:

1. Overall, S_3, Shared Leadership, had the lowest correlations with the other scales. This may be because Shared Leadership is more administrative than instructional, which is how the other scales would be viewed.

2. The highest correlation (.79) was between S_4, Shared Goals for Learning, and S_5, Purposeful Student Assessment. Possibly as goals for learning are established, appropriate assessment is seen as a necessary corollary.

*The sum of the six scale means usually will not equal the total mean because items are omitted on occasion, and the total typically has the smallest numbers of complete responses.

3. The lowest correlation (.42) was found between S_3, Shared Leadership, and S_6, Effective Teaching. Again, this low correlation may be because S_3 is viewed as administrative and S_6 is viewed as instructional.

4. All correlations were positive, as expected.

5. In terms of shared variance among scale scores, percentages range from about 18 percent to 62 percent.

The implication of the positive correlations among the CSIQ scales is that improvement in one area tends to go with improvement in the other areas. Conversely, a decrease in one area would tend to go with reduced scores in the other areas. These correlation coefficients reflect the holistic nature of continuous school improvement. Although certain areas may be stronger or weaker than others, continuous school improvement tends to move forward (or decline) in a unified manner rather than as segmented parts.

Percentile Norm Conversion Charts

Although the CSIQ has been available for only a limited time, at the time of the norming process, it had been administered in 132 schools. The most useful statistics for normative data are the scale means converted to percentiles in the appropriate normative group. The CSIQ scale means are important because they place the school staff on the scale of measurement. However, because these means tend to group toward the high end of the scale, even for schools not doing well in improvement, the percentiles are more useful for comparison purposes. This section presents the charts for converting the CSIQ scale means to percentiles for a variety of school groups.

Tables 20 through 27 provide the information needed to convert the CSIQ scale raw scores to percentiles for each normative group. These tables are based on the individual scores of the professional staff (e.g., teachers, principals, librarians) who completed the CSIQ in the field tests. Tables 20 and 21 are special (and printed in red) because the normative groups are five Known elementary and three Known high schools. Note that the Known middle school mentioned in the previous section was dropped from the conversion tables due to the problems with its low scale scores. Within each of the conversion tables, the CSIQ scale raw score is listed in the left column and the percentiles for those raw scores, by dimension, are provided in the columns to the right.

For example, suppose an elementary school had a raw score mean of 50 on the Learning Culture scale. That raw score converts to a percentile of 24 for the five Known schools (Table 20, column two), but it converts to a percentile of 53 for the 76 Remaining

elementary schools (Table 22, column two). This means that in the Known elementary school normative group, 24 percent of the Known schools had means lower than 50. However, when using the less stringent standard of the Remaining elementary schools in Table 22, 53 percent of these schools had means lower than 50. The groups of schools used as the basis for converting the raw scale mean scores to percentiles in Tables 22 through 27 should be considered "typical" schools, while the Known elementary and high schools in Tables 20 and 21 represent the highest standards.

Table 20
AEL Continuous School Improvement Questionnaire (CSIQ) Conversion Table for Scale Scores to Percentiles for Known Elementary Schools (N=5)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	1	0	0	0
17	0	0	2	0	0	0
18	0	0	2	0	0	0
19	0	0	2	0	0	0
20	0	0	2	0	0	0
21	0	0	2	0	0	0
22	0	0	2	0	0	0
23	0	0	2	0	0	0
24	0	0	2	0	0	0
25	0	0	3	0	0	0
26	0	0	3	0	0	0
27	0	0	3	0	0	0
28	0	0	3	0	0	0
29	1	0	3	0	0	0
30	2	0	5	0	0	0
31	2	0	6	0	0	0
32	2	0	6	0	1	0
33	2	0	7	0	2	0
34	2	0	8	0	2	0
35	2	0	8	0	2	0
36	2	0	9	1	2	0
37	2	0	10	2	2	0
38	2	0	10	2	2	0
39	3	1	11	4	2	1
40	3	2	13	5	3	2
41	3	2	14	5	3	2
42	3	4	16	5	3	2
43	3	6	18	8	4	2
44	5	9	21	8	5	3
45	8	9	22	10	8	6
46	11	11	22	13	12	10
47	12	15	23	15	14	12
48	14	15	26	21	15	18
49	18	22	29	25	22	24
50	24	26	36	34	29	28
51	27	29	43	37	34	32
52	33	33	47	41	41	34
53	38	42	51	45	46	39
54	44	46	58	50	54	43
55	51	54	65	53	58	49
56	58	61	68	61	65	57
57	65	76	77	65	72	68
58	78	84	82	74	84	76
59	88	90	89	84	88	82
60	99	99	99	99	99	99

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Table 21
AEL Continuous School Improvement Questionnaire (CSIQ) Conversion Table for Scale Scores to Percentiles for Known High Schools (N=3)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	1	0	0
19	0	0	0	2	1	0
20	0	1	0	2	2	0
21	0	2	0	2	2	0
22	0	2	1	2	2	1
23	0	2	2	2	2	2
24	0	2	2	2	2	2
25	0	2	3	2	2	2
26	0	2	3	2	2	2
27	0	2	3	3	2	2
28	0	2	4	4	2	2
29	0	2	6	4	2	2
30	1	3	8	4	3	2
31	2	4	8	5	4	2
32	2	5	8	5	7	4
33	2	6	10	7	7	4
34	2	7	11	9	8	4
35	2	8	13	9	8	4
36	2	9	14	12	9	4
37	4	10	16	14	11	6
38	4	12	17	16	13	8
39	4	15	19	20	18	9
40	7	17	19	21	18	11
41	9	19	20	23	23	14
42	12	20	21	28	24	15
43	16	24	26	30	27	16
44	19	27	30	34	33	20
45	23	28	33	37	36	22
46	32	33	38	44	40	26
47	38	39	41	49	45	34
48	42	45	49	52	52	42
49	46	52	55	59	60	47
50	52	63	62	64	65	56
51	56	69	67	70	68	60
52	65	74	69	76	73	65
53	70	82	73	79	76	66
54	77	84	79	81	79	71
55	85	88	82	84	82	74
56	88	89	85	91	88	79
57	92	91	88	95	90	81
58	95	93	94	95	94	86
59	99	95	96	98	95	90
60		99	99	99	99	99

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Table 22
AEL Continuous School Improvement Questionnaire (CSIQ) Conversion Table for Scale Scores to Percentiles for Remaining Elementary Schools (N=76)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	1	0	0	0
17	0	0	2	0	0	0
18	0	0	2	0	0	0
19	0	0	2	0	0	0
20	0	0	2	0	0	0
21	0	0	3	0	0	0
22	0	0	3	0	0	0
23	0	1	4	0	0	0
24	0	2	4	0	1	0
25	0	2	5	1	2	0
26	1	2	5	2	2	1
27	2	3	6	2	2	2
28	2	4	6	2	2	2
29	2	5	7	3	3	2
30	2	5	8	3	3	2
31	3	6	8	4	4	3
32	3	7	9	5	4	3
33	4	8	10	5	5	4
34	5	9	11	7	7	4
35	5	11	12	7	7	5
36	6	12	14	9	8	5
37	7	14	15	9	9	6
38	8	17	16	10	11	7
39	10	19	18	11	12	8
40	12	22	20	14	15	10
41	14	24	22	16	17	11
42	17	28	25	18	20	13
43	20	31	27	20	23	16
44	23	34	30	23	26	18
45	26	38	33	27	30	20
46	30	42	38	31	34	24
47	35	47	41	35	38	28
48	42	52	46	40	43	32
49	47	58	51	46	49	37
50	53	62	57	53	57	47
51	59	66	61	57	61	52
52	65	71	65	62	66	55
53	72	75	69	67	70	60
54	77	79	73	71	76	65
55	81	82	76	76	80	70
56	86	86	80	81	83	74
57	89	90	83	86	88	79
58	93	92	87	90	91	82
59	96	95	90	94	94	86
60	99	99	99	99	99	99

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Table 23
AEL Continuous School Improvement Questionnaire (CSIQ) Conversion Table for Scale Scores to Percentiles for Remaining High Schools (N=14)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	1	0	0	0
17	0	0	2	0	0	0
18	0	0	2	0	0	0
19	0	0	3	0	0	0
20	0	0	3	0	0	0
21	0	0	4	0	0	0
22	0	1	5	0	1	1
23	0	2	5	1	2	2
24	1	3	6	2	3	2
25	2	4	7	2	4	2
26	2	5	7	3	4	2
27	2	6	8	3	5	2
28	2	6	9	4	6	3
29	3	8	9	5	6	3
30	3	9	11	6	7	3
31	4	11	12	8	9	3
32	4	11	13	8	10	5
33	5	12	14	10	11	5
34	7	13	16	11	15	6
35	8	15	17	13	17	7
36	10	18	18	15	19	8
37	12	22	19	17	21	9
38	14	24	21	18	22	11
39	17	28	23	21	26	13
40	20	32	26	25	28	18
41	24	37	28	27	31	21
42	28	41	31	31	36	24
43	32	47	33	36	39	27
44	37	51	36	41	45	32
45	42	56	41	45	51	35
46	49	60	44	52	55	40
47	53	64	49	58	62	46
48	60	68	54	63	68	53
49	66	72	60	69	74	59
50	71	78	67	74	79	69
51	76	82	71	77	82	72
52	80	85	74	80	84	75
53	84	87	78	83	87	78
54	89	91	82	86	90	81
55	91	93	85	89	91	83
56	94	95	88	92	93	86
57	96	96	91	95	95	90
58	97	97	94	97	97	92
59	98	99	96	98	98	95
60	99		99	99	99	99

Table 24
AEL Continuous School Improvement Questionnaire (CSIQ)
Conversion Table for Scale Scores to Percentiles for Middle Schools (N=19)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	1	0	0	0
16	0	0	2	1	1	0
17	0	1	2	2	2	0
18	0	2	2	2	2	0
19	0	2	3	2	2	0
20	0	2	3	2	3	0
21	0	3	4	2	3	0
22	0	3	5	2	3	0
23	0	3	6	3	3	0
24	0	3	7	3	4	0
25	0	4	8	5	4	1
26	1	5	8	5	4	2
27	2	6	8	5	5	2
28	2	7	9	5	5	3
29	3	7	9	6	6	3
30	3	8	10	6	6	3
31	4	10	11	8	7	3
32	5	12	12	9	8	4
33	6	13	13	11	9	5
34	8	14	14	13	10	6
35	9	17	16	15	13	6
36	11	20	17	17	16	8
37	13	23	19	20	19	9
38	15	26	20	22	22	11
39	17	29	23	25	26	14
40	20	32	27	29	31	18
41	24	37	28	32	35	21
42	27	41	32	35	39	23
43	32	45	35	40	43	26
44	37	50	38	44	49	29
45	43	55	41	48	54	34
46	49	59	46	52	59	39
47	54	63	50	57	63	43
48	60	68	53	63	67	48
49	66	71	59	68	71	54
50	72	75	64	72	77	66
51	77	79	68	76	79	70
52	80	81	73	80	82	73
53	84	84	77	82	85	76
54	85	87	80	85	89	80
55	90	89	83	89	91	83
56	92	93	85	91	95	86
57	95	95	88	94	96	89
58	96	95	91	96	97	92
59	97	97	94	98	98	94
60	99	99	99	99	99	99

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Table 25
AEL Continuous School Improvement Questionnaire (CSIQ)
Conversion Table for Scale Scores to Percentiles for Middle/High Schools (N=10)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	1	0	0	0
11	0	0	1	0	0	0
12	0	0	1	0	0	0
13	0	1	1	0	0	0
14	0	2	2	0	0	0
15	0	2	2	0	0	0
16	0	2	2	1	1	0
17	0	3	2	1	1	0
18	0	3	3	1	1	0
19	0	3	3	1	1	0
20	0	3	3	1	2	0
21	0	4	4	1	2	0
22	1	4	5	2	2	0
23	2	4	8	2	3	0
24	2	4	10	2	3	1
25	2	4	11	3	3	1
26	2	5	12	5	3	1
27	2	6	12	6	5	1
28	2	8	14	6	6	1
29	2	10	14	7	7	2
30	3	11	17	9	8	3
31	5	13	18	12	9	3
32	6	14	20	13	12	4
33	8	17	20	15	15	4
34	9	18	21	16	18	5
35	10	21	22	18	22	7
36	13	24	22	21	24	9
37	14	28	24	25	27	9
38	16	30	25	28	30	12
39	19	32	28	30	32	12
40	22	34	31	34	32	20
41	26	38	35	37	36	22
42	28	41	38	40	41	24
43	34	44	40	43	46	27
44	38	50	42	48	51	30
45	42	54	43	51	55	34
46	48	58	48	57	60	37
47	52	62	54	64	65	41
48	58	66	59	69	68	46
49	63	72	64	73	71	52
50	67	76	67	79	77	60
51	72	80	71	81	79	64
52	77	81	75	83	83	68
53	82	84	78	86	86	73
54	87	86	81	89	89	76
55	90	89	84	92	92	79
56	93	91	85	94	94	84
57	95	94	89	96	96	87
58	96	96	94	97	97	88
59	98	97	98	98	97	91
60	99	99	99	99	99	99

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Table 26
AEL Continuous School Improvement Questionnaire (CSIQ)
Conversion Table for Scale Scores to Percentiles for PreK-12 Schools (N=3)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	1	0	0	0
12	0	0	1	0	0	0
13	1	0	1	0	0	0
14	1	0	1	0	0	0
15	1	0	1	0	0	0
16	1	0	2	0	0	0
17	1	0	2	0	0	0
18	1	0	2	0	0	0
19	1	0	2	0	0	0
20	1	0	2	0	0	0
21	1	0	3	0	0	0
22	1	0	4	0	0	0
23	2	0	4	0	0	0
24	2	0	5	0	0	0
25	2	0	5	0	0	0
26	2	0	6	0	0	0
27	2	0	8	0	0	0
28	2	3	8	0	3	0
29	2	3	9	0	3	0
30	2	4	10	0	4	2
31	2	4	11	3	5	3
32	2	4	12	5	6	3
33	2	5	13	6	9	4
34	2	7	13	7	9	4
35	3	10	14	9	10	5
36	3	13	16	10	11	6
37	4	18	17	11	13	7
38	5	23	19	11	14	8
39	10	23	21	12	15	9
40	14	24	22	20	16	10
41	18	29	24	21	23	11
42	22	30	25	27	29	11
43	23	37	26	34	34	15
44	29	45	29	37	36	19
45	31	55	30	40	39	22
46	42	58	36	47	44	26
47	49	65	37	53	47	29
48	53	67	40	59	52	34
49	64	70	45	67	54	44
50	66	73	55	72	65	66
51	76	76	60	77	67	69
52	77	78	63	80	73	73
53	78	81	67	84	77	77
54	79	85	73	87	82	84
55	85	86	77	88	83	90
56	88	91	81	89	86	91
57	93	92	82	89	87	93
58	95	92	84	89	90	94
59	96	95	92	92	96	95
60	98	98	98	98	98	98

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Table 27
AEL Continuous School Improvement Questionnaire (CSIQ)
Conversion Table for Scale Scores to Percentiles for Vocational Schools (N=2)

Scale Raw Score	Learning Culture Percentiles	Sch./Fam./Comm. Connections Percentiles	Shared Leadership Percentiles	Shared Goals for Learning Percentiles	Purposeful Std. Assess. Percentiles	Effective Teaching Percentiles
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	3	0
13	0	0	0	0	4	0
14	0	0	0	0	4	0
15	0	0	0	0	5	0
16	0	0	0	3	7	0
17	0	0	0	4	13	0
18	0	3	0	5	15	0
19	0	4	0	6	15	0
20	0	5	0	7	16	0
21	3	7	4	7	17	2
22	4	8	6	8	18	3
23	6	11	14	9	19	4
24	8	13	15	10	22	4
25	10	14	16	12	23	5
26	11	19	18	17	24	6
27	12	21	20	19	25	7
28	13	24	22	20	26	8
29	14	26	22	21	27	9
30	15	31	23	24	28	13
31	15	31	25	25	33	15
32	16	32	30	26	36	16
33	18	33	31	27	39	18
34	22	37	35	28	41	19
35	25	41	37	29	43	23
36	33	42	38	30	48	26
37	35	44	39	31	50	28
38	37	50	40	36	52	29
39	39	55	40	47	60	31
40	47	62	41	50	62	33
41	49	65	42	52	63	38
42	58	74	42	57	71	39
43	68	75	43	58	72	41
44	74	75	44	60	76	43
45	81	76	45	63	77	51
46	83	85	47	66	78	58
47	86	87	55	71	83	63
48	87	89	58	77	84	66
49	88	90	63	84	86	68
50	89	91	66	85	88	73
51	91	91	71	87	90	76
52	92	93	79	92	92	81
53	93	95	82	93	94	83
54	94	95	87	94	94	88
55	95	96	88	94	95	89
56	95	96	93	95	95	90
57	96	97	97	96	96	91
58	96			96	96	93
59	97			97	97	94
60						97

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Summary

This section has provided the essential normative data for users of the CSIQ. The basic data for a school consists of the scale means. These provide location on the scale of measurement. However, the percentiles are more informative for comparative purposes. Conversion to the percentiles is straightforward using the appropriate normative group.

For elementary and high schools, the most useful normative groups likely would be the Known schools. For the time being, these schools provide the "gold standard" for moving toward continuous improvement and becoming high-performing schools. The tables for the Remaining schools of these two types provide comparisons with what may be considered typical schools.

The CSIQ has generated great interest as an assessment instrument for providing a school staff with direction as to how to move toward becoming a continuously improving, high-performing learning community. As use of the CSIQ expands, normative data will be updated periodically to reflect the expanded database. Additional normative groups may be included later. The present database is extensive, and all the data adequately represent their respective normative groups, with the possible exception of the vocational schools, of which there were only two.

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